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FOURTH BIENNIAL REPORT

OF THE

NORTH CAROLINA

BOARD OF HEALTH,

1891-1892.

RALEIGH, N. C.:

JOSEPHUS DANIELS, STATE PRINTER AND BINDER.

Presses of Edwards & Broughton.

1893.

MEMBERS OF THE BOARD.

H. T. BAHNSON, M. D., President	Salem.
Term Expires 1893.	
RICHARD H. LEWIS, M. D., Secretary and Treasurer	Raleigh.
Term Expires 1893.	
J. A. HODGES, M. D.	Fayetteville.
Term Expires 1895.	
W. H. HARRELL, M. D.	Williamston.
Term Expires 1895.	
S. WESTRAY BATTLE, M. D.	Asheville.
Term Expires 1897.	
GEORGE GILLETT THOMAS, M. D.	Wilmington.
Term Expires 1897.	
APPOINTMENTS BY THE GOVERNOR, TERMS EXPIRING 1893.	
J. H. TUCKER, M. D.	Henderson.
F. P. VENABLE, PH. D., F. C. S.	Chapel Hill.
J. L. LUDLOW, C. E.	Winston.

STANDING COMMITTEES.

EPIDEMICS—Drs. Lewis and Hodges.

WATER SUPPLY AND DRAINAGE—Dr. Bahnsen and Mr. Ludlow.

HYGIENICS OF PUBLIC SCHOOLS—Drs. Hodges and Tucker.

CLIMATOLOGY—Dr. S. W. Battle.

ADULTERATION OF FOOD AND MEDICINES—Prof. F. P. Venable.

SANITARY CONDITION OF STATE INSTITUTIONS—Drs. Thomas and Harrell.

VITAL STATISTICS—Drs. Lewis, Thomas and Bahnsen.

LIST OF SUPERINTENDENTS OF HEALTH IN THE STATE OF
NORTH CAROLINA, DECEMBER 31, 1892.

ALAMANCE—Dr. G. W. Long, Graham.
ALEXANDER—Dr. J. B. Watts, Taylorsville.
ANSON—Dr. E. F. Ashe, Wadesboro.
BEAUFORT—Dr. S. T. Nicholson, Washington.
BLADEN—Dr. Newton Robinson, Elizabethtown.
BUNCOMBE—Dr. C. E. Hilliard, Asheville.
BURKE—Dr. J. L. Laxton, Morganton.
CALDWELL—Dr. A. A. Kent, Lenoir.
CARTERET—Dr. M. F. Arendell, Morehead City.
CASWELL—Dr. R. H. Williamson, Yanceyville.
CATAWBA—Dr. George H. West, Newton.
CHATHAM—Dr. H. T. Chapin, Pittsboro.
CHEROKEE—Dr. J. F. Abernathy, Murphy.
CLEVELAND—Dr. O. P. Gardner, Shelby.
COLUMBUS—Dr. I. Jackson, Whiteville.
CRAVEN—Dr. L. Duffy, Newbern.
CUMBERLAND—Dr. J. H. Marsh, Fayetteville.
DAVIDSON—Dr. R. L. Payne, Jr., Lexington.
DUPLIN—Dr. J. W. Blount, Kenansville.
DURHAM—Dr. N. M. Johnson, Durham.
EDGECOMBE—Dr. Donald Williams, Tarboro.
FORSYTH—Dr. D. N. Dalton, Winston.
FRANKLIN—Dr. E. S. Foster, Louisburg.
GASTON—Dr. J. H. Jenkins, Dallas.
GRANVILLE—Dr. Patrick Booth, Oxford.
GREENE—Dr. E. H. Sugg, Snow Hill.
GUILFORD—Dr. E. R. Michaux, Greensboro.
HAYWOOD—Dr. J. Howell Way, Waynesville.
HENDERSON—Dr. J. L. Egerton, Hendersonville.
IREDELL—Dr. W. J. Hill, Statesville.
JOHNSTON—Dr. R. J. Noble, Smithfield.
LENOIR—Dr. C. B. Woodley, Kinston.
LINCOLN—Dr. W. L. Crouse, Lincolnton.
MACON—Dr. S. H. Lyle, Franklin.
MARTIN—Dr. W. H. Harrell, Williamston.
McDOWELL—Dr. B. A. Cheek, Marion.
MITCHELL—Dr. C. E. Smith, Bakersville.
MONTGOMERY—Dr. F. E. Asbury, Asbury.
MOORE—Dr. Gilbert McLeod, Carthage.
NASH—Dr. J. J. Mann, Nashville.
NEW HANOVER—Dr. F. W. Potter, Wilmington.

NORTHAMPTON—Dr. H. W. Lewis, Jackson.
ONSLOW—Dr. E. L. Cox, Jacksonville.
ORANGE—Dr. D. C. Parris, Hillsboro.
PENDER—
PITT—Dr. B. T. Cox, Redallia.
RANDOLPH—Dr. J. M. Boyette, Ashboro.
RICHMOND—Dr. J. M. Stansill, Rockingham.
ROBESON—Dr. R. F. Lewis, Lumberton.
ROWAN—Dr. J. J. Summerell, Salisbury.
RUTHERFORD—Dr. W. A. Thompson, Cliffdale.
SAMPSON—Dr. John A. Stevens, Clinton.
STANLY—Dr. A. C. Bayles, New London.
STOKES—Dr. J. W. Neal, Meadows.
SWAIN—Dr. R. L. Davis, Bryson City.
TYRRELL—Dr. Ab. Alexander, Columbia.
UNION—Dr. W. C. Ramsay, Monroe.
VANCE—Dr. A. Cheatham, Henderson.
WAKE—Dr. James McKee, Raleigh.
WARREN—Dr. P. J. Macon, Warrenton.
WATAUGA—Dr. W. B. Council, Boone.
WAYNE—Dr. John Spicer, Goldsboro.
WILSON—Dr. Albert Anderson, Wilson.
YADKIN—Dr. T. R. Harding, Yadkinville.
YANCEY—Dr. J. L. Ray, Burnsville.

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NORTH CAROLINA BOARD OF HEALTH,
Secretary's Office,
RALEIGH, N. C., January 3, 1893.

*His Excellency THOMAS M. HOLT,
Governor of North Carolina:*

SIR—In accordance with section 2 of the "Act Relating to the Board of Health," I have the honor to present this the Fourth Biennial Report of the North Carolina Board of Health under the amended law, ratified by the General Assembly on the 9th March, 1885.

RICHARD H. LEWIS, M. D.,
Secretary and Treasurer.

FOURTH BIENNIAL REPORT
OF THE
NORTH CAROLINA BOARD OF HEALTH.
1891-1892.

Since its last report the Board of Health, and the cause of preventive medicine in North Carolina, in general, has suffered an irreparable loss in the death, on August 22 last, in the prime of life, of its late Secretary and Treasurer, Thomas Fanning Wood, M. D., LL. D., of Wilmington.

He was the great apostle of sanitation in our State and was the father of the North Carolina Board of Health, not alone in the sense of originating it, but also in that of the wise and tender parent who nourished and sustained it during its years of feeble and struggling infancy. Not content with giving his valuable time, without stint, he contributed liberally of his not over-abundant private means in order to sustain it with a show of respectability until, in 1885, the General Assembly of the State manifested its appreciation of the work he had accomplished by putting it on a living basis. Indeed, it may be said that he gave his life for this cause, for it was in making a tour of inspection of the convict camps in the western part of the State, while climbing a steep mountain side, with a heavy valise—an accident on the railroad rendering it necessary—that he felt the first intimation of the disease (aneurism of the aorta) which caused his death.

While he was an able and learned physician, and possessed of varied scientific and literary accomplishments, the secret of the power for good which he exerted in so many ways in his day and generation is not to be found in either his talents or his large accumulation of knowledge. But it was because of the loftiness of his ideals, the purity of his

motives, the sincerity of his convictions, and his unselfish and untiring devotion to the good of his fellow-men that his life was an inspiration to his associates, and he was enabled to excite an interest and accomplish results that mere intellectual endowment could never have compassed. The community in which he lived, irrespective of creed or condition, and the profession he elevated and adorned alike, rise up and call him blessed.

We have also been called upon still more recently to mourn the departure of Dr. S. S. Satchwell, of Burgaw. For a great many years he was a prominent member of the Medical Society of North Carolina, and one of the largest contributors to its transactions. He was the first President of the State Board of Health and, later, Superintendent of Health for Pender County. In both positions he showed an active and intelligent interest in sanitary matters, and was always ready with tongue and pen to serve the cause.

MEETINGS OF THE BOARD.

PROCEEDINGS OF THE CONJOINT SESSION WITH THE STATE MEDICAL SOCIETY AT ASHEVILLE, MAY 27, 1891.

The President announced that the hour had arrived for the conjoint session with the Board of Health.

The President of the Board of Health, Dr. H. T. Bahnsen, took the chair and stated that after quiet was resumed the conjoint session would come to order.

He said it was his duty to announce the lamentable fact that the Board of Health of North Carolina is still occupying the anomalous position which it occupied at its incipiency — a regularly organized Board without executive authority, appointed by the Legislature as an advisory Board on all matters pertaining to hygiene and the preservation of health. The services of such a Board are infrequently, one may say almost never, called upon, and we therefore have very little, if any, progress to report. To the few faithful who remain to hear the discussions and deliberations of this Board, I would like to make one or two suggestions: In the first place, the anomalous position of our Board as a simply advisory Board, without executive functions, has exposed us, and with us the medical profession of North Carolina, to what might properly be called a slight by the action of the last Legislature in determining the character of books on medical and hygienic subjects which should be used in our public schools, and I hope the matter will have a limited discussion, at any rate. I refer to the adoption, under the influence of the so-called "Woman's Christian Temperance Union," of a book on the influence of alcohol on the human system. The teaching of this book must be forced upon the youngest children. He regretted the ignorance of the State Legislature in entrusting the mental

hygiene of our children to the secretary of a body like that. It should have been referred to the State Board of Health, certainly to the conjoint action of that Board and this Society.

Another thing he wished to speak of was the want of interest which pervades the state on the important subject of health preservation and hygiene. It has been suggested to inaugurate a system of "missionary" sanitary conventions to be held in different parts of the State. Unfortunately, a movement of this sort must be entirely a labor of love, owing to the smallness of the fund at the command of the Board.

The third and last point to which your attention is asked is to the fact that two members are to be elected to the State Board at this meeting. The terms of office of Drs. Wood and Hilliard expire at this time and their successors are to be elected.

The Secretary of the Board, Dr. Thomas F. Wood, said he would not detain the meeting with a full report, as the third biennial report was just to hand from the publishing office, and these would be distributed to the members present. He would, however, call their attention particularly to two or three points in the report. It will be observed that the Board has centered its efforts more largely on the matter of vital statistics. Whether or not North Carolinians think it is of importance to know how this teeming population come and go, gets sick and gets well or dies, it is an important matter, and they must understand that the eyes of the statistical world are upon us, and these things are sought after. It is not necessary to speak of this to the people of Asheville, for they already understand it. Intending immigrants want to know all these things concerning the weather and the death-rate. We have gathered and tabulated these facts, and they are based, in most instances, on the reports received from the superintendents of health. These reports are based on the death certificates of physicians, and all

present will therefore see the importance of reporting all these facts to the Superintendent of Health.

He referred especially to the condition of the poor-houses and jails in the State. It is an open secret that many of these were a disgrace to the State. There were men incarcerated merely on suspicion and dying from cold and exposure. We have carefully, year by year, given these conditions publicity through the *Bulletin* of the Board. Notice the results in the tables presented in the report—the establishment of new jails and poor-houses, of hospitals in connection with the poor-houses in several instances, and the general improvement in the sanitary condition of these institutions. We consider this a favorable augury that the people of North Carolina are beginning to understand that public health is public wealth. You are not all aware of the fact that the delay in the reports of diseases dangerous to public health, such as small-pox, cholera, etc., is doing a good deal of harm in some localities. It only happens occasionally that we have cases of small-pox in this State. As soon as a case of such a disease is known to a physician, he should report at once to the Superintendent of Health of his county, and if there is no Superintendent, the report should be made to the Secretary of the State Board. As soon as we know of a case of small-pox or other contagious disease, we can place at the disposal of the Superintendent of Health means for the prevention of its spread, and if the Superintendent is not certain of his diagnosis, let him call a consultation, and the State Board will bear the expense; or, if deemed necessary, a committee from the State Board will visit the spot and give its assistance to the Superintendent. He hoped every Superintendent in the State would read this report carefully and take notice of how far he had failed in doing his duty. Special attention was called to the table showing the prevailing diseases for the two years. In this report, taking a single county, the different seasons of the year could be compared as to the influence of each on health,

or, taking any given season, the different counties could be compared. Such a table as this, if it could be made as accurate as mortuary statistics can be, would be of the greatest interest and importance, not only to the people in the State, but to those who are thinking of coming among us.

ELECTION OF TWO NEW MEMBERS.

The election of members to fill vacancies being the next order of business, Dr. Weaver nominated Dr. Thomas F. Wood. The motion was made that Dr. Wood be elected by acclamation, but the law requiring the election to be by ballot, it was moved and carried that Dr. Faison cast the vote of the meeting for Dr. Wood. It was done, and Dr. Wood was declared duly elected to be his own successor.

Dr. J. W. Long put in nomination Dr. S. Westray Battle, and Dr. McNeill nominated Dr. H. B. Weaver.

There were 54 votes cast, necessary to a choice 28. Of these Dr. Battle received 31, Dr. Weaver 22 and Dr. Hilliard 1. Dr. Battle was declared elected.

On hearing his name put in nomination Dr. Battle asked to have it withdrawn on account of pressure of personal business. However, on being elected he thanked the Society for the honor, and said that he accepted it.

NORTH CAROLINA SANITARY ASSOCIATION.

Dr. Wood announced that it was the wish of the State Board to have a meeting of the Sanitary Association that was formed at Raleigh two years since. They wanted the meeting in conjunction with the Board of Health, and he wanted it spread abroad that it was not a meeting of doctors only, but that people in all trades and professions take part in these meetings and are especially asked to come. The matters to be talked of are not medical, and the ears of those out of the profession who are present will not be hurt by

jarring, incomprehensible medical terms. The proposition has not been definitely settled, but the day will probably be fixed for August.

Dr. Hays invited the Sanitary Association to consider Oxford in selecting a place for the meeting, and Dr. Summerell spoke in favor of Salisbury.

Dr. Wood said in that the meeting was to be on the missionary order, it should be held where there seemed to be the most ignorance in regard to sanitary science. He said that much good had resulted from these meetings of sanitary bodies, *e. g.*, the city of Memphis had been helped to be one of the most salubrious cities in the South by the meeting within its borders of the American Public Health Association, this Association being invited thereto by the extremely unsanitary condition of the city, and its very high death-rate.

Dr. Hodges, in reference to the action of the Legislature in adopting certain books to be used in the public schools, said it had been the source of much controversy in the State, and asked if it were the intention of the Conjoint Session to take any action on the matter.

The President said he had brought the subject up only to show how the State Board of Health and the profession had been ignored in the matter, and to give it as his opinion that the Board of Health and the physicians are fitted, and should be asked to give their judgment on such matters.

Dr. Hodges said that, although some one had said that Dr. Wood was in reality the Board of Health, and while he recognizes Dr. Wood's untiring zeal in the work of the Board, *he must have the coöperation of you all.* If the influence of the Board was made to be felt by the masses through the physicians it could accomplish more good. He hoped the Superintendents of Health would remember the words of Dr. Wood and aid the Board with more energy and interest than has been the case. The Board accomplishes a work many of you do not know of; and if you will take this Annual Report home with you and study it, and will then enlighten the

people, you will do much to help the Board. And when we have the meeting of the Sanitary Association get your Mayor to come to that meeting, and come yourselves, and it will be made an important thing for the State. He referred to the success of the Raleigh meeting. He was not a member of the State Board at the time of that meeting, but he was a Superintendent of Health, and attended the meeting only to show his interest in the matter of State sanitation: but when he had been in attendance a very short time he became deeply interested in the proceedings. He said that the resolution sent up by Dr. Satchwell on yesterday and acted upon by the Medical Society would have been postponed and brought before this meeting if the Board were recognized as it should be. It was a matter for the Board of Health especially, and not for the Medical Society. There have been many good papers read in these meetings, but they have not been appreciated because they came from a body which even you physicians seem to ignore.

Dr. Harrell asked if a majority of all the members of Boards of Health were necessary for the election of a Superintendent.

Dr. Wood gave it as his opinion that it required only a majority of those present at the meeting at which the election took place, and that members could not vote by proxy.

In reply to a question from Dr. Harrell, if there was any way to reduce the number of mill-ponds in the country, Dr. Wood said he knew of no way except the statutory method of having the ponds condemned as public nuisances.

DETAILS OF THE ORGANIZATION OF COUNTY BOARDS.

In answer to the question as to who has the authority to call a meeting of the County Board of Health, how often these meetings should be held, and when the meeting for the election of a Superintendent of Health should be held, Dr. Wood made the following explanation: If there is no county

board in existence, the Chairman of the County Commissioners has to issue a call for a meeting of all those who are eligible to membership on the board. This call may be made voluntarily on the part of the Chairman of the County Commissioners or at the suggestion of some one who is eligible to membership. After the meeting of organization he supposed that each board could make its own rules as to who could call a meeting of the board. In New Hanover County it has been the custom for the Superintendent to call special meetings, as being the one who more than any other comes in contact with those circumstances which call for the action of the board as a whole. He may either act voluntarily or on the request of one or more members of the board. Where there is no board organized, a meeting for organization may be held at any time and a Superintendent elected at any time, but his successor must be elected at a meeting held on the first Monday in the next succeeding September, and an election held every two years thereafter. If the time appointed by law for the election of the successor of an incumbent should pass without a meeting having been held, he would consider it equivalent to the reëlection of that incumbent: provided a notice of the meeting had been advertised. Otherwise, the office should be considered vacant and a meeting called to elect a Superintendent to fill the unexpired term. The law requires that the meeting for the election of a Superintendent *shall* be held on the first Monday in September, the person elected to hold office two years. Special meetings of the board may be held as often as each local board shall desire.

The Conjoint Session adjourned.

CONJOINT SESSION OF THE STATE BOARD OF
HEALTH WITH THE STATE MEDICAL SOCIETY
AT WILMINGTON, MAY 18, 1892.

The hour having arrived for the Conjoint Session of the Society with the State Board of Health, Dr. H. T. Bahnsen, President of the State Board of Health, assumed the chair and called the Conjoint Session to order.

RESIGNATION OF DR. J. M. BAKER.

The Secretary read the resignation of Dr. J. M. Baker, which on motion, was accepted.

A PARTIAL SYNOPSIS OF THE REPORT OF THE SECRETARY
OF THE STATE BOARD OF HEALTH.

INFLUENZA.

Since the last report of the Secretary the State has been visited by another epidemic of influenza. It would be more correct to say that all during the year there were cases reported from some of the counties. For instance, in June, from Macon, Mitchell, New Hanover and Pender; July, Greene, Macon and Orange; disappearing in August, appearing again in September in Mitchell and Orange, the next month in Orange and Davidson. In November it set in again in earnest, being reported from 11 counties; in December it had reached 36 counties, mounting to 41 in January, declining again to 36 counties in February.

There are no statistics to determine the death-rate or the number of persons sick with influenza during the periods named. The reports from our towns do not specify influenza as a cause, as in the scheme so far adopted it seemed only practicable to name such diseases as gave indication of the general state of the public health. Without being able to appeal to statistics to demonstrate the loss to the State by death and disability, we know it has been great in hastening the death of old persons and impairing the health of those of middle age.

After having had three years experience with the disease, and the voluminous statistics of all nations—for none have escaped—the practical question to sanitarians is, *How can its spread be averted?* That it is an infectious disease, has been clearly proven by the experience of the best observers, and in England this belief has been so firmly held that a per-

son in a small town was fined for coming on the streets before he was entirely well of the influenza. It must be admitted that, as much information as we have accumulated upon the subject, there seems to be no practicable means of preventing or arresting it. The epidemics in towns have been traced to the arrival of one person from an infected town, but its spread is so rapid and mysterious, and the sickness may be of such an unnoteworthy nature as not to require the attention of a physician, or not to be distinguished from usual non-epidemic catarrh.

As malaria formerly entered into nearly all of our diseases on the sea-coast and in the alluvial valleys of the interior, all likely to partake of the malarial type, even surgical cases of a serious nature being almost uniformly dominated by this malarial poison, influenza seems to have asserted the same predominance, either communicating its type to all sickness, or attacking the patient at the most vulnerable point, lighting up rheumatism and gout, precipitating the consumptive in his downward course. While it has had no such destructive influence as the shorter ravages of cholera and small-pox, it has caused losses to towns, and especially to insurance companies and societies, in excess of that of any sickness which has visited the world.*

The domesticated animals have suffered but little from the epidemic in our State, even estimating that the uncertain word "distemper," as used by most reporters, may or may not mean influenza, few counties have reported its presence.

CONSUMPTION.

This disease still continues to be the most important one that afflicts the human race, because of its fatality and universality. In North Carolina we have nothing like the prevalence of the disease that is found in the States north, east and west of us, which may be accounted for in one way by the sparseness of our population and the mildness of our climate. We are speaking, though, as if we had valuable statistics to prove our death-rate, whereas we have only the records of from thirteen to fifteen towns with a population of from 80,000 to 100,000 to estimate upon.

The increased ratio of the death-rate among the negroes is still a striking feature. The causes of this disproportion lie deep in the social conditions of the negro, and the remedy is so far in the future as to seem now all but hopeless. If contagion be admitted as a potent cause, none are more subjected to it than the negroes huddled in the suburbs of every Southern town in unwholesome shanties. If syphilis, hereditary and acquired, can lay the foundation for it, the cause is abounding.

*This immense loss of money is less burdensome now than it appeared years ago, because it is now borne by insurance companies, and in the days of the plague, small-pox, by individuals, these great epidemics occurring before capital and brotherhood associations had ventured for profit and for philanthropy to provide for the widow and orphan.

But the tuberculosis of negroes is more largely abdominal than with the whites, so much so that *tabes mesenterica* was designated negro consumption par excellence by Dr. Cartwright.

The negro has not become so important a social factor as to have become as interesting pathologically as he may be some day, and so all his diseases are not touched upon in the text-books. Even from Baltimore, which is nearly a Southern town, we have a new Practice of Medicine, and the word negro is not so much as mentioned in the index.

In the absence of more elaborate statistics, we are aware that death is playing havoc with the freedmen, and that the massing of them in the towns is a potent cause of all their constitutional diseases. In the month of March an insurance solicitor informed the Secretary that his company had paid in Wilmington a policy for every day in one week, and the report of Dr. Potter, Superintendent of Health of New Hanover County, shows that for March, 1892, deaths from consumption were four. There is no remedy applicable to this state of things like the return of the negroes to the farms, even if this be applicable. For the moment you discuss the question, the ways and means rise as insuperable obstacles. There has been a removal of negroes from the eastern portion of the State, but the agents who solicited them as laborers for other States found that the town negro was too well satisfied with his easy life there to be beguiled into the turpentine forests of Georgia, the sugar plantations of Louisiana, or the cotton fields of Mississippi. The means are not obvious whereby the consummation of the segregation of these great masses among the farming districts may be accomplished, but it will come in time, or the race is doomed to a large decline by disease, chief of which is consumption.

VITAL STATISTICS OF THE NEGRO.

In "THE ARENA" for April, 1892, we have a thoughtful study of the vital statistics among the negroes. The writer was greatly embarrassed in his investigation of the question by the lack of statistics from the States. Since the days of the faithful statistician, DeBow, Superintendent of the seventh census, no census has been so reliable, especially as to the negro, and the records of few Southern cities were kept regularly and systematically.

The wild conjectures about the immense increase of the negro population made by several contributors to statistical and political papers was contrary to our knowledge of the actual condition of the race. Mr. Frederick L. Hoffman, the author of the article in "THE ARENA" above-mentioned, tabulates the white and colored populations of ten Southern States for 1890 from the census, showing the percentage of increase among both races in these States. In the State of North Carolina, for instance, the increase among the whites for the past decade was 20.98 per cent.,

while for the negroes it was 6.76 per cent., two-thirds less. In Mississippi and Arkansas alone was the increase of the negroes greater than among the whites, while the total average reads, increase among the whites for the ten States 25.07 per cent., and for the negroes 18.29 per cent. Statistics are not at hand to inform us whether the exportation of negroes from the north tier of Southern States to Mississippi and Arkansas went to swell the ratio of increase.

But consumption among all the classes of people in North Carolina is a leading question, and one that we ought to meet with the aid of the large mass of facts which are being collected, with some increased degree of hope. The State sets apart hospitals for the care of the insane, not with positive despair about their future, but with a feeling that a peaceful death is the best solution of their sad estate. Is it not worth the while for the State to show her interest in this great class of curable consumptives and open free sanitaria for an experiment on a large scale at the public expense, and so restore men now hopeless to their places as citizens. Private sanitaria in our State are attracting the attention of the people of the Northern and Western States, and are doing good work. Is not the experiment far enough advanced to encourage the State or philanthropists to undertake free sanitaria for these afflicted citizens?

A question has arisen as to the colonization of consumptives, if it is not unadvisable for the salubrious States fitted for the location of sanitaria to object on the ground of the implantation of the scourge by the massing of the consumptive in heretofore exempt localities. We believe this objection would not hold where such precautions and sanitary rules are adhered to as in the sanitaria. It is well known, though, that when a locality gets a reputation for its salubrity for consumptives, hotels and private houses are thronged by these unfortunate invalids, where hygienic discipline is impossible.

The prophylaxis of consumption is already a practical question, and is assuming a rational stage of practice, through the sanitary associations in the United States.

The American Public Health Association at the Charleston meeting in 1890 had its practical prophylaxis up for discussion, and the remarks of those who took part in the debate showed how seriously some of the leading sanitarians in the country were studying the question.

The Conference of State Boards of Health, which took place in Washington in May, 1891, reported through their committee some resolutions bearing upon the practice of prophylaxis, as follows:

GENTLEMEN—Your committee begs leave to report the following resolutions:

1. That it is the opinion of this Conference that tuberculosis is a zymotic disease; that its germs are developed within the blood and tissues of man and various animals, and that these germs are capable of an existence external to the body for a number of months, especially in dried sputum, and in places where least exposed to the free action of the atmosphere and sunlight.

2. That the germs of tuberculosis are conveyed in various ways to persons and animals, the principal media of these being:
 - (a) Dust containing dried sputum.
 - (b) Food, either contaminated with infected particles, or the flesh of tuberculous animals.
 - (c) Milk from phthisical mothers and tuberculous cows.
3. That unsanitary conditions are the prime factors tending to the development and dissemination of the disease, such as:
 - (a) House and soil dampness.
 - (b) Lack of sunlight and bad ventilation.
 - (c) Bad plumbing and house-drainage.
 - (d) Over-crowding in living-rooms, in schools, in workshops, in public institutions, etc.
4. That the disease is undoubtedly disseminated through the neglect to destroy or disinfect the sputa of the phthisical, distributed as this infectious matter is.
 - (a) On infected linen (dangerous to washer-women), clothing, carpets, etc.
 - (b) On the floors and walls of houses, workshops, hospitals and hotels, especially of health resorts
5. That to limit the spread of tuberculosis it is necessary that notification by physicians and householders of its existence be made compulsory, thereby enabling health authorities to examine into the sanitary surroundings of those affected, and to make provision for the adoption of the necessary precautions against infection to the healthy.
6. That municipal inspection of dressed meat and of dairy cattle be systematically carried out, and that the notification of the health authorities by owners of infected animals be made compulsory.
7. That municipal and State governments ought to aid in the work of limiting the disease by the establishment of institutions especially designed for the reception and treatment of the phthisical, and so situated that while minimizing the danger to the general community, they may likewise supply means for outdoor work and exercise, suited to the condition of different patients.

PETER H. BRYCE, M. D., *Chairman.*

LUCIEN F. SALOMON, M. D.,

PROF. V. C. VAUGHAN."

They are aiding in the progress of prophylactic practice when we as physicians disseminate such information among their patients and insist on its rigid rules when they are attending consumptives. It will be a long time before we can realize the ideal practice set forth by the resolutions of the "Conference," but we can patiently do our share of it and await the education of the people.

RELATION OF TUBERCULOSIS TO ANIMALS.

It is too large a subject to undertake in this report to point out the possibility of the transmission of the disease through the milk and flesh of bovine animals.

We have a remarkable demonstration of the existence of tuberculosis in a fine herd of cattle, reported in the *Medical News* of Philadelphia, and reproduced in the *North Carolina Medical Journal*, for April, 1892.

It must not be presumed that because this find was made in Philadelphia by specialists that it is rare, the serious question is how far spread the disease may be in the cattle in our State. Since we pay no attention to the rudiments of flesh-food inspection, there is little promise that the detection of the disease will be sought after to the apparent detriment of the owners of valuable property. Fortunately, as to the dangers from beef as food, the purification by fire in cooking is our present safeguard. In fact, it is not at all proven that cases can be traced from the consumption of beef. Notwithstanding this, it is no longer a subject we may neglect with impunity.

THE HISTORY OF SMALL-POX IN NORTH CAROLINA—THE INTRODUCTION OF
INOCULATION AND VACCINATION; THE CONDITION OF THE INMATES OF
OUR JAILS AND POOR-HOUSES AS TO PROTECTION BY VACCINATION.

The small-pox was brought to America by the earlier settlers. It ravaged the Indian tribes fearfully. Lawson* speaks of the Sewee Indians thus: "The small-pox has destroyed many thousands of these natives who, no sooner than they are attacked with the violent fevers and burning which attends that distemper, fling themselves overhead in the water, in the very extremity of the disease, which, shutting up the pores, hinders a kindly evacuation of the pestilential matter and drives it back, by which means death most commonly ensues."

Dr. John Brickell, in his Natural History of North Carolina,† says that the small-pox never visited North Carolina but once, and that in the late Indian war, which destroyed most of those savages that were seized with it.

The small-pox spread in Salem, having been brought thiere by a company of cavalry of the Pulaski Legion, which in 1779 camped there several days. Forty persons suffered from the disease, of whom only two died. Two years after that (in 1781) inoculation was introduced in Salem.‡ So meagre are statistics relating to the diseases and causes of death of all that period from the time of the first settlements to the time of the organization of the North Carolina Board of Health that nothing is accurately known except the items one can gather from old letters and newspapers, or diaries such as that of Thacher's itinerary American Army in the war of 1777. One exception can be made to the diary so carefully preserved by the Moravian Church in their Archives. Although the note given to current events is short, the historian who is favored with an examination of these valuable documents will find a daily account of births, marriages, deaths and baptisms of the members of that honored fraternity which has shed its benignant influences on the

*Dublin, 1737, p. 253.

†History of North Carolina, Raleigh edition, 1860, p. 25.

‡Reichel's Moravians in North Carolina; 12m.: Salem, 1857.

rest of the State for more than a century. It was also in Salem that the first vaccinations are recorded. In 1802 eighty persons were vaccinated there. It is likely that in Wilmington, Fayetteville, NewBerne, Edenton and some of the older towns lying along the great water courses in the line of travel also had adopted vaccination, but no record has come to the eye of the writer.

We know nothing of the spread of the practice through the influence of these Christian pioneers, but if they were as diligent in the dissemination of the new prophylactic as they were in carrying the Gospel of Peace to the remotest wilds of civilization, we may be sure that they shared this beneficence with their neighbors.

Down to the period of the civil war cases of small-pox occurred at long intervals, and principally at the seaports. Indeed, so far apart did cases occur that at Wilmington, for instance, when a case was discovered it became necessary to rid the pest-house at Mt. Tirza of the fishermen who had taken possession, to admit the solitary case of small-pox in the person of a sailor. But with the war came an outbreak of small-pox, which increased as the four years rolled on, reaching its culmination in 1865-'66 among the great masses of freedmen who flocked to the towns when peace was established.

We all know the story of the scarcity and impurity of vaccine virus during the war period, or if any have forgotten let them read the account of it as written by Dr. Joseph Jones (*Spurious Vaccination in the Confederate Armies*), and by Dr. James Bolton, of Richmond. Vaccinations which were inoculations of pus, and probably of syphilitic virus, were done from arm to arm by soldiers, and this communicated to people in civil life, causing the direst calamities before the practice could be stopped. After the war was over, and it became necessary to resort to wholesale vaccination, the virus furnished by United States Army officials was of the most unreliable character, defeating the most intelligent attempts at protecting the helpless throngs that crowded into the sea-coast towns.

The history of the small-pox from 1861 to 1866 in Wilmington alone would furnish a complete demonstration of the dangers of neglected vaccination, and the harm of spurious vaccination by crusts taken indiscriminately from doubtful vaccinifers. In the small-pox hospital here there were about 800 patients from August, 1865, to May, 1866—most of them negroes, and most of them unprotected by ante-bellum vaccinations.

There are many physicians in North Carolina who have been practicing twenty-five years who have never seen a case of small-pox, but it will probably not be as many years before they will see cases, if the practice of vaccination just now is to comply with the requirements of insurance companies, most of which will not accept an applicant who is not protected by vaccination, or refuse by written declaration to pay a claim, if the death is from small-pox.

STATISTICS OF JAILS AND POOR-HOUSES.

I have taken the reports of the Superintendents from the *Bulletin* for one month, chosen without particular selection from 1891, and the following are the results. The statistics are from 36 counties:

In three counties all were vaccinated.

In one county 15 out of 20 were vaccinated.

In one county 6 out of 12 were vaccinated.

In twenty-five counties there were no vaccinations.

In the 36 counties the total of inmates of the poor-houses and jails was 864, of whom 104 were vaccinated. That is to say that less than *one in eight* were protected by the only known prophylactic. It may not be, and probably is not, a fair deduction to conclude that the entire population is unprotected in the same ratio, but it demonstrates that lack of protection exists among the classes of our population, the criminal and dependent, where, we know, are usually located foci of infection. There are two chief influences that have brought about this state of things:

1st. There is a considerable anti-vaccination sentiment among the people at large. A prejudice which has grown out of the echoes of the English anti-vaccination societies, which are found in the newspapers, and from the lack of conviction on the part of physicians about the necessity of vaccinating infants.

2d. The feeling of security which has overtaken doctors and their patients by the long disappearance of the scourge, and the knowledge of the fact that they can procure in a short time fresh and reliable vaccine.

The State Board of Health sounds the warning now, and this seems to be the appropriate time, when so many representative physicians are present, to call to their attention the fact that their patrons, who ever look to them for protection, are growing up ignorant of the risks they are running without vaccination.

THOMAS F. WOOD, M. D.,
Secretary of the State Board of Health.

DISCUSSION.

Dr. Haigh was much interested in the report of the Secretary. He wished to call attention to the fact that consumption had become implanted in those places that are much frequented as a resort for consumptives, whereas in former years they had been free from the disease. About fourteen years ago he was in Asheville and a friend was boasting of

the fact that there had never been a case of consumption in a native and recommended the place as a resort. He made the remark that they would not always enjoy that immunity. He remembered when Italy was a famous resort for consumptives, but that latterly it was becoming deserted by these patients because consumption had gotten such a deep root there. Not long since his friend in Asheville wrote him that he had seen his first case of tuberculosis in one of their inhabitants.

Dr. Westray Battle said in reply that he took up his residence in Asheville about seven years ago, and that at that time there was a prevailing idea that the section embracing an area of about one hundred miles by fifty enjoyed a complete immunity from consumption. Whether that were so he was not prepared to say because no statistics were kept. It was said that a consumptive patient carried to that country would not transmit the disease. He has seen cases that were contracted there; but he thinks his confrères would bear him out in the assertion that the section does enjoy quite a freedom from the disease among the natives.

In the matter of the failure on the part of physicians to vaccinate, Dr. Haigh asked how were we to overcome the difficulty? A physician does not like to order a lot of vaccine virus to keep on hand in case a person desires vaccination, for the virus deteriorates by keeping, and when the case presents itself you would probably not have any virus that is good; nor would he feel exactly at his ease to advertise that he had just received a fresh lot of vaccine and was prepared to vaccinate all who desired the protection. Then, as we are to receive a fee for the service, he cannot make up his mind to go around telling his patients that they ought to be vaccinated; it looks too much like he were using it as a means of increasing his income. He saw only one way out of the difficulty, and that is to take the matter out of the hands of the general practitioner and make it the duty of the superintendents of health, and make it compulsory.

Dr. Potter, Superintendent of Health for New Hanover County, has been in the habit of getting a large quantity of vaccine virus at intervals through the Secretary of the State Board of Health. He takes his stock of virus and goes to the schools and explains the importance of the measure, and then vaccinates all who are willing. In one school of two hundred he vaccinated one hundred and fifty, and all the others had been vaccinated previously. He had very little trouble when once they understood the necessity of it. He makes it a point each spring to go around and vaccinate all he can.

Dr. Wood explained to the members how they could at any time procure a fresh and reliable amount of vaccine virus to meet any emergency that might arise.

Dr. H. W. Lewis gave his experience in the matter of attempting to vaccinate the children of the schools. He put up a notice that he would visit the school at a certain date to vaccinate all who desired it, and when he reached the school he found that the pupils had all taken to the woods. He went to another school and found they had no scholars. He thought the Superintendent of Health was placed in a very embarrassing position. He holds the office of Superintendent in his county. He complained that the salary of the Superintendent was left to the Board of Commissioners, and that the service was worth three or four times what they would allow. He thought the salary ought to be fixed by the Legislature in proportion to the number of inmates in the poor-house and the population of the county. The remuneration is so small that it is seldom a competent man can be found willing to accept the office. Let there be evidence of successful vaccination before a pupil may be admitted to the public schools. He thought, as Dr. Wood said, that we are raising a rich harvest ready for the reaper. He suggested that the State Board of Health prepare a pamphlet for distribution among the people, teaching them the vital importance of vaccination.

Dr. D. C. Parris said that in his county (Orange) where he is the Superintendent of Health, vaccination is going by default. There is practically no vaccination except a case now and then in an applicant for life insurance. He thinks nothing but a compulsory law would bring about the desired end.

Dr. Cheatham had listened with much interest to the subject. Our population is of such a character and our railroads of such extent, affording quick and ready communication with other parts of the country, that we are liable at any time to the introduction of small-pox. Numbers of people are constantly making visits to the Northern cities where cases of the disease are frequently occurring and where they are liable to come into contact with it. These people are liable to bring it into our midst. He thinks the Society should take some steps toward having a law enacted on the subject.

The President thought nothing but a disastrous epidemic would awaken the people from their lethargy.

Dr. Parris offered a resolution which was amended by Dr. Roberts to read as follows :

Resolved, That the Board of Health be instructed to memorialize the Legislature of the State of North Carolina in regard to a law of compulsory vaccination.

Dr. Graham thought that the Legislature was apt to look upon anything presented by the medical profession with suspicion, and thought it would be best to approach them through the Superintendent of Public Instruction.

Dr. Hodges thought a mere appeal would amount to nothing, but that a committee should be appointed to be present when the bill is presented to work it up by direct conversation with the individual members.

Dr. Roberts explained that he had put the resolution in such form that just what to do and how to do it should be left to the discretion of the Board of Health.

Dr. Lewis amended the resolution as follows:

That a committee be selected by the Board of Health to go to Raleigh and get through the best law possible on vaccination.

The amendment was adopted.

ELECTION OF A NEW MEMBER.

The election of a new member on the Board of Health to fill the unexpired term of Dr. Baker was declared in order.

Dr. H. W. Lewis, of Jackson, and Dr. W. H. Harrell, of Williamston, were put in nomination. The result of the ballot was in favor of Dr. Harrell, and on motion of Dr. Lewis, the election was made unanimous.

The conjoint session was declared adjourned.

ON BOARD STEAMER WILMINGTON EN ROUTE TO SOUTHPORT,
SEPTEMBER 7, 1892.

The meeting was called to order by the President, Dr. H. T. Bahnsen. On motion, Dr. F. P. Venable acted as Secretary *pro tem.* Dr. Lewis moved that Dr. Hodges be appointed a committee of one to draft suitable resolutions on the death of Dr. Wood. This was carried. The Board next proceeded to the election of a member to fill the vacancy caused by the death of Dr. Wood. Dr. Tucker nominated Dr. George G. Thomas of Wilmington, and as there was no further nomination he was elected by acclamation. Dr. Thomas was then introduced to the Board. Nominations for the office of Secretary being in order, Dr. Hodges put in nomination the name of Dr. R. H. Lewis, of Raleigh. The Secretary was instructed to cast the vote of the Board for Dr. Lewis, and Dr. Lewis was declared elected.

Dr. Thomas made mention of certain telegrams and other communications received and answered by him in the interim between the former Secretary's death and the present meeting. President Bahnsen also mentioned action taken

by him. On motion of Dr. Lewis, these actions were endorsed by the Board.

Dr. Hodges suggested that President Bahnsen issue an address to the people of the State embodying the results of the Board's examination of the quarantine at Southport. This address was to be signed by the entire Board.

The Board proceeded to their examination of the quarantine methods and facilities, adjourning the meeting until 8 p. m.

F. P. VENABLE, *Secretary pro tem.*

Returning to Wilmington the Board reassembled in its own office. The following resolutions of respect to the memory of the late greatly admired and beloved Secretary were read by Dr. Hedges and unanimously adopted :

WHEREAS, The Almighty Ruler of the universe has seen fit in His infinite wisdom to remove from our councils our worthy Secretary and Treasurer, Dr. Thomas F. Wood; therefore be it

Resolved, That in his death our Board has sustained a great and irreparable loss, that affects not only its members, but also the well-being of our profession and of the people throughout the State as well.

Resolved, That we desire in this connection to place upon record our estimate of his long, faithful and efficient services in behalf of public sanitation in North Carolina, for we recognize that the North Carolina Board of Health had its inception through his labors and influence, and that it has been sustained and brought to its present state of efficiency directly by his personal endeavors and individual pecuniary sacrifices.

Resolved, That we desire, furthermore, to express our appreciation and admiration of his eminent services to the medical profession, for we are assured that, by his superior learning and marked ability, as much as by his pure and unblemished Christian life and character, he has dignified and elevated the profession in our State, and has earned for himself a name and influence that, reaching out to other States and countries, has reflected credit and honor not only upon his own profession, but upon his native State that he loved so well.

Resolved, That we desire to express to the family of the deceased our lasting and unfeigned sorrow, and assure them of our earnest and heartfelt sympathy in this, their sad bereavement.

Resolved, That the Secretary of this Board furnish copies of the above, for publication, to the *North Carolina Medical Journal* and to the newspapers of Wilmington, with the request that they be copied by the press of the State, and that a copy be also sent to the family of our deceased member.

On motion, the following report of the Board's investigation of the Quarantine Station at the mouth of the Cape Fear River was formulated.

The State Board of Health visited the Quarantine Station at Southport on the 7th of September, 1892.

Dr. W. G. Curtis, the quarantine physician, laid before the Board the means adopted by himself to deal with vessels coming to his Station. They consisted in emptying the vessel of ballast and other matter in hold, washing out bilge, fumigating with sulphur and washing with solution of bichloride of mercury. The Board was satisfied that the officials in charge of the quarantine were fully aware of the responsibilities attached to their office and were using all means at their command to preserve a good quarantine service. The need of a hospital for treatment of persons arriving at the station sick of infectious disease was especially commented on, and also the necessity for a house for the detention and observation of all persons not diseased but part of infected ship's company, and more elaborate apparatus for disinfection of clothing and bedding from same ship. They wish, however, to express their confidence in the ability of the Board of Quarantine to cope with ordinary emergencies in the present condition of the shipping at this port; but should a cholera-infected ship arrive the State officials would be called upon to aid them by a liberal contribution from the fund provided for such cases.

The Secretary was, on motion, authorized to make such purchases of office apparatus as might be necessary for properly furnishing his office.

The itemized statement of the Treasurer to September 1 was read, and on motion, accepted.

The Secretary asked for the opinion of the Board in regard to sundry plans for increasing the usefulness of the Board and bringing it more conspicuously before the people. Several schemes were proposed and discussed by all the members.

The Secretary called attention to the fact that the present cost of issuing the *Bulletin* exceeded the appropriation for printing, and though nothing had been said in relation thereto by the Auditor, he did not feel authorized to continue the present arrangement without the authority of the Board.

On motion, it was decided to continue the *Bulletin* without change.

Dr. Hodges asked the consideration by the Board of the unequalized payment of Superintendents of Health in the different counties, stating that he would give at a future meeting the result of some investigations he had been making in this matter.

The Board then adjourned *sine die*.

RICHARD H. LEWIS, M. D.,

Secretary.

H. T. BAHNSON, M. D.,
President.

REPORT OF TREASURER FOR TWO YEARS ENDING DECEMBER 31, 1892.

1891.		EXPENDITURES.	
Jan.	2.	Postage, box-rent.....	\$ 1 50
	2.	Subscription to <i>Sanitarian</i> for members for 1891.....	28 00
	2.	J. A. Hodges, expenses to Raleigh Conference of State Asylum Superintendents.....	16 50
	2.	F. P. Venable, balance on expenses to meeting American Public Health Association.....	8 35
	8.	Myers Bros., Columbus, O., for Transactions of Conference of State Boards of Health.....	12 00
	10.	Express on <i>Bulletin</i>	75
	10.	Postage on <i>Bulletin</i>	25
	11.	Postage.....	32
	13.	Postage.....	1 40
	13.	R. H. Lewis, balance on expenses to meeting American Public Health Association.....	7 00
	14.	S. G. Hall, printing.....	20 00
	29.	G. P. Putnam's Sons.....	17 50
	29.	Express	1 30
Feb.	7.	Postage	32
March	2.	<i>Bulletin</i> , express on	65
		Postage on <i>Bulletin</i>	33
		Postage stamps.....	1 50
	10.	Putnam's bill.....	26 50
		Postal cards	4 00
April	6.	Postage stamps.....	1 00
	6.	Salary of Secretary and assistant, first quarter 1891, Express on <i>Bulletin</i>	300 00
	7.	Postage on <i>Bulletin</i>	65
	8.	S. G. Hall, printing	35
		Post-office box-rent	1 25
	17.	Express charges.....	1 25
May	7.	Express on <i>Bulletin</i>	30
	10.	Postage on <i>Bulletin</i>	65
	13.	Telegram to E. & B.....	37
	12.	C. W. Yates, stationery.....	25
	29.	Thomas F. Wood, expenses Asheville meeting.....	7 20
		H. T. Bahnsen. " " "	52 45
		F. P. Venable, " " "	35 00
		R. H. Lewis. " " "	36 00
		J. A. Hodges, " " "	50 00
		J. H. Tucker, expenses Asheville meeting.....	40 00
		R. D. Jewett, " " "	33 05
			28 70

May	29.	Freight on boxes to Asheville—Bd. of Health matter	\$ 7 90
June	1.	Freight on boxes from Raleigh.....	1 42
	4.	Express on <i>Bulletin</i>	70
		Transactions Conference State Boards of Health.....	10 00
	6.	R. M. McIntire, carpet for office.....	32 05
	11.	A. B. Cook, repairs and shelving	5 50
		Subscription to <i>Sanitary News</i>	14 08
	15.	Postage on Third Biennial Report.....	7 36
		Anton Metz, for translations, etc.....	20 00
		Freight on box from Asheville—Bd. of Health matter	2 68
	30.	Salary Secretary and Clerk, 3 months	300 00
July	2.	Express on book.....	35
		C. I. Comfort, typewriter ribbon.....	1 00
	17.	P. Blakiston, Son & Co.....	10 34
		C. W. Yates	4 05
	21.	Postage stamps.....	50
Aug.	5.	Express on <i>Bulletin</i> , July and August.....	1 30
		Postage " " " "	1 00
	10.	Postage stamps.....	3 24
	15.	W. C. Conant, <i>Sanitary Era</i>	13 50
Sept.	7.	Express and postage on <i>Bulletin</i>	1 29
		Postage stamps.....	50
		Westlake Co., Reports Conf. State Boards of Health	6 00
		Express on Conference Reports.....	1 70
	15.	Postage stamps.....	50
	30.	Salary of Secretary and Clerk for quarter ending	
		September 30, 1891.....	
			300 00
Oct.	2.	W. L. DeRosset, engraving	8 00
	9.	Post-office box-rent.....	1 50
		Postage and express on <i>Bulletin</i>	1 00
Nov.	10.	Express on reprints	55
	18.	Postage stamps	2 30
		Express on <i>Bulletin</i>	75
Dec.	3.	" " and postage stamps	3 35
	31.	Office rent for 1891.....	60 00
		Salary of Secretary and Clerk for quarter ending	
		December 31	
			300 00
1892.			
Jan.	13.	Postage and express on <i>Bulletin</i>	95
		Postage stamps and box-rent	2 50
	19.	C. I. Comfort, typewriter supplies	2 80
	24.	LeGwin Bro.'s bill	4 50
	28.	Postage	1 00
		C. W. Yates' bill	4 95
		Subscription News Co., <i>Sanitary Journal</i>	8 75
Feb.	12.	C. I. Comfort, typewriter supplies	2 60

Feb.	18.	Express and postage on <i>Bulletin</i>	\$ 1 00
		Postage stamps	1 00
	27.	Postage on pamphlet, "Care of the Insane".....	3 25
March	9.	Postal cards	3 00
	21.	Wm. R. Jenkins, "Walley's Meat Inspection".....	3 60
	29.	Express and postage on <i>Bulletin</i>	90
	31.	Salary Secretary and Clerk, quarter ending with March, 1892	300 00
April	16.	LeGwin Bros.' bill.....	1 50
		Express and postage on <i>Bulletin</i>	1 00
May	3.	Postage	1 00
	4.	Subscription to <i>Sanitarian</i>	28 00
	19.	Thomas F. Wood, per diem, meeting May, 1893.....	13 00
		S. W. Battle, per diem and expenses, meeting May, '92,	27 00
		H. T. Bahnsen. " " " "	42 00
		R. H. Lewis, " " " "	11 55
		F. P. Venable, " " " "	29 60
		J. M. Baker, " " " "	23 00
June	3.	Express and postage on <i>Bulletin</i>	1 00
	9.	Postage stamps	1 00
	13.	C. I. Comfort, repairing typewriter	5 00
		F. P. Venable, analysis	5 00
	30.	Salary of Secretary, quarter ending June 30, 1892	300 00
July	7.	Express and postage on <i>Bulletin</i>	1 00
	27.	LeGwin Bros.' bill	2 50
		Western Union Telegraph Co.....	25
Aug.	5.	Express and postage on <i>Bulletin</i>	1 00
	16.	J. A. Hodges, per diem and expenses meeting in May, and Rex Hospital inspection	29 50
	31.	Postage stamps	30
		Salary of Secretary for July and August	200 00
		Office rent to date, 8 months	40 00
Sept.	12.	H. T. Bahnsen, per diem and expenses meeting at Wilmington, September 7, 1892	28 25
		F. P. Venable, per diem and expenses meeting at Wilmington Sept. 7, 1892	29 85
		J. A. Hodges, per diem and expenses meeting at Wilmington, Sept. 7, 1892	15 90
	15.	J. H. Tucker, per diem and expenses meeting at Wilmington, Sept. 7, 1892	26 15
	19.	W. H. Harrell, per diem and expenses meeting at Wilmington, Sept. 7, 1892	27 50
	19.	G. G. Thomas, per diem meeting at Wilmington, Sept. 7, 1892	4 00
	21.	W. L. Elder, 1 office desk	15 00

	RECEIPTS.	\$4,176 52
Sept. 24.	Express on typewriter from Wilmington	\$ 85
27.	Express on mailing list.....	25
28.	One blank-book	25
30.	Mrs. Mary S. Wood, executrix, salary of Secretary for September.....	100 00
Oct. 1.	Express on map.....	25
3.	A. S. Lewter, agent, freight on 8 boxes from Wil- mington.....	11 53
4.	Express on microscope.....	60
4.	Hauling 8 boxes from depot	60
	Postage stamps and postal cards.....	10 00
7.	Hauling office furniture from depot.....	50
	A. S. Lewter, agent, freight on office furniture	3 40
	Mending office carpet	35
8.	Paid Mitchell, work in office.....	1 45
	Paid Andrews, " "	1 25
	Two ounces benzine for cyclostyle.....	10
10.	R. D. Jewett, packing and shipping office furniture, books, etc., and hauling, \$8.20; printing slips for <i>Bulletin</i> , \$2.00; Yates' bill, \$3.00; binding <i>Bulle- tin</i> , \$1.25; express on <i>Bulletin</i> , August, 70c.; postage on <i>Bulletin</i> , July, 30c ; August, 37c., stamps and lock for typewriter, 81c	16 63
11.	A. S. Lewter, freight on desk for office.....	1 58
	Hauling desk from depot.....	20
13.	Postage, 3d class, on September <i>Bulletin</i>	2 64
Nov. 1.	Salary of Secretary for October	100 00
Dec. 1.	Salary of Secretary for November.....	100 00
	5. Raleigh Stationery Co., letter-press, copying-book, brush, ink.....	6 40
	Subscription to <i>Sanitary Era</i> for the Board	4 50
31.	Postage stamps and postal cards	10 00
	Salary of Secretary for December	100 00
	Five hundred postal cards furnished printer Novem- ber 10	5 00
	R. H. Lewis, per diem and expenses meeting at Wil- mington, Sept. 7, 1892.....	25 70
	Postage on <i>Bulletin</i> , 3d class, October and November	4 00
	North Carolina Car Co., 1 book-case	8 00
	Office rent to date, 3 months	15 00
	Balance on hand.....	530 29

Amount on hand January 1, 1891..... \$ 176 52
Appropriation for year 1891..... 2,000 00
Appropriation for year 1892..... 2,000 00— 4,176 52

STATE FOR THE YEAR 1

es each month during the two years, and record the various seasons in that country.

JULY.	DECEMBER.
Typhoid (a few) and malarial fevers.	Influenza and epidemic catarrh; typhus and typhoid fever (30); influenza and typhoid fever (1); hog cholera.
Measles; Typhoid fever (30); dysentery; temper in horses.	
Typhus	

Gaston -
Dr. D. B. Hollingshead
Greaterville -
Dallas, in Sept.

STATISTICAL TABLES.

Owing to the fact that the number of towns reporting represents a comparatively small portion of our population, and the further fact that the methods employed by some of them are not as complete as they should be, our vital statistics are not as satisfactory as we would like. At the same time they are valuable. By a study of Tables I and II an excellent idea can be obtained of the distribution of the various diseases throughout the State, and of Table III their relative prevalence at different seasons.

An examination of the tables from the towns, which are well scattered, will show the causes of death in the different localities and the annual death-rate. This latter cannot in the case of every town, as intimated above, be regarded as entirely accurate; but inasmuch as the conditions apply equally to both races they can be depended upon to indicate the relative death-rate among our white and colored people. The death-rate among the latter is very much higher than among the former, being in 1891 16 per thousand as against 10 per thousand among the whites. This great discrepancy is doubtless due to several causes, among which may be mentioned the hardships incident to their greater poverty as a class, the disproportionate prevalence of syphilis among them, and perhaps an inherent weakness of constitution, particularly as to the mulattoes.

TABLE III.—SHOWING THE COMPARATIVE PREVALENCE OF DISEASE
DURING THE YEARS 1891 AND 1892.

(The top row of figures opposite each disease is for 1891; the bottom for 1892.)

DISEASES.	NUMBER OF COUNTIES REPORT- ING, BY MONTHS.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Bronchitis.....	11	14	7	5	2	1	1	1	2	2	4	8
	6	7	9	7	1	..	..	2	..	2	4	..
Catarrhal Fever.....	8	..	..	..	1	..	1	3	4	..	2	4
	..	..	..	..	..	..	1	..	..	..	..	..
Cholera (Sporadic)	1	1	..	..	..	..	1	..	..	..	1	..
Cholera (Chickens)	2	1	2	1	3	..	2	2	1	3	3	1
	1	..	..	..	1	1	1	1	1	..	..	1
Cholera (Hogs).....	2	3	1	4	..	6	8	8	8	9	11	4
	2	2	4	5	2	4	3	4	5	4	1	4
Cholera (Morbus)	1	..	..	..	1	3	2	..	1	..	..	..
	..	..	..	..	..	1	1	..	..	..	..	..
Cholera (Infantum).....	..	..	1	..	2	3	4	..	..	1	1	..
	..	..	..	..	..	2	2	..	1	..	..	..
Croup, membranous.....	..	..	1	1	..	..	1	..	..	..	..	..

Diarrhoea.....	3	1	5	17	13	8	6	2	1	..	..	..
	..	1	4	2	15	14	6	1	3	..	..	..
Diphtheria.....	8	5	5	4	1	3	..	..	13	11	9	3
	3	2	4	3	2	1	4	6	8	9	9	5
Distemper (Horses)	4	5	7	4	3	..	2	2	2	2	..	4
	2	1	1	1	..	..	..	..	..	..	..	..
Dysentery.....	..	..	1	6	21	21	7	2	1	3	1	..
	..	..	1	5	27	25	5	..	2	..	..	2
Cerebro-spinal Meningitis.....	..	..	..	1	..	..	1	..	..	..	..	..
Erysipelas.....	..	..	1	1	1	..	1	..	..	..	1	..
Glanders.....	..	..	..	..	1	..	..	..	..	..	..	..
Influenza ("La Grippe")	31	37	40	20	5	3	2	..	..	2	11	36
	41	35	17	3	..	1	..	..	..	1	6	9
Jaundice.....	2	1	..	..	..	..	..	1	..	..	1	..
Malarial Fever.....	5	6	2	..	7	12	23	24	23	16	7	..
	1	2	3	7	11	15	10	12	9	4	3	..

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

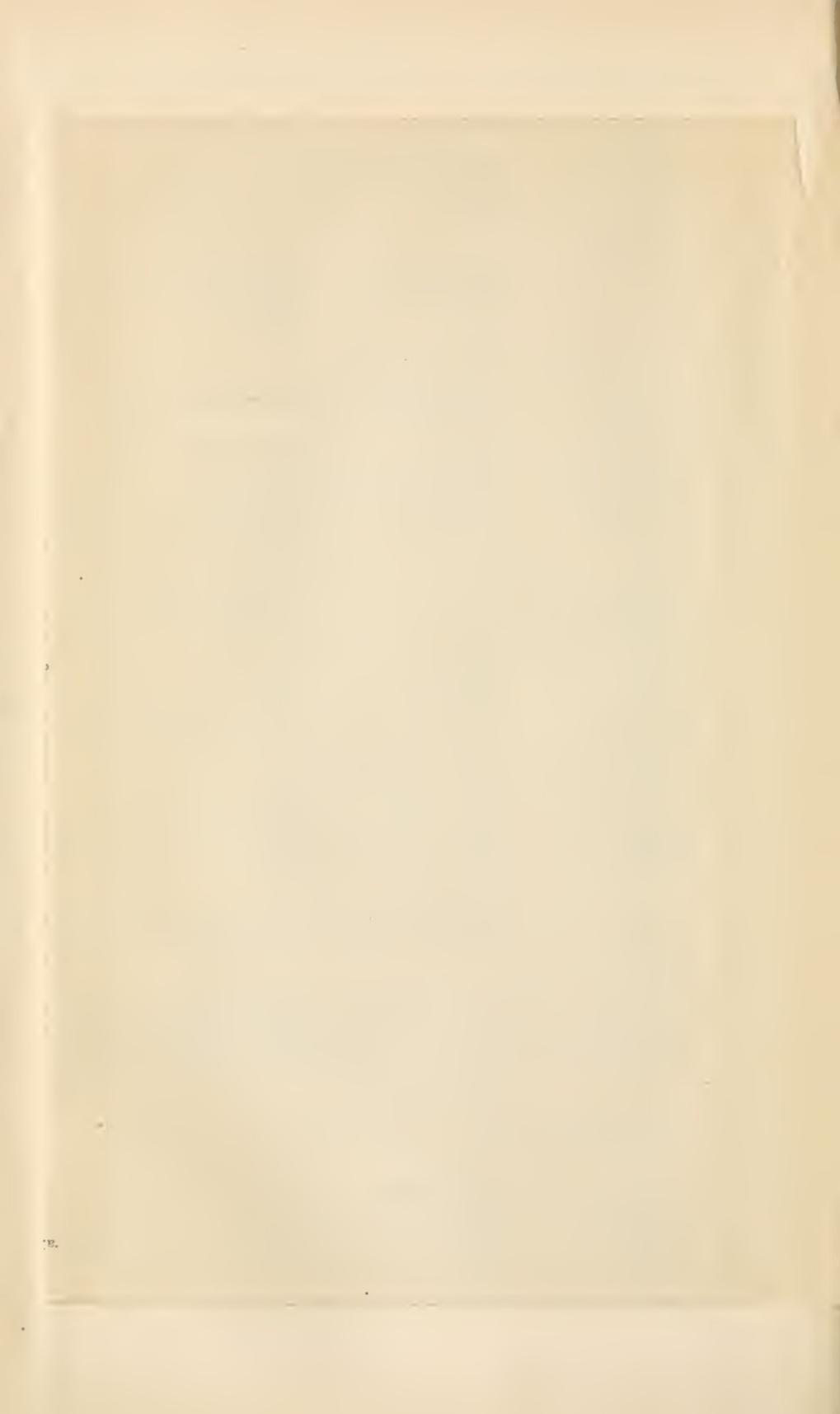


TABLE III.—COMPARATIVE PREVALENCE OF DISEASE—*Continued.*

(The top row of figures opposite each disease is for 1891; the bottom for 1892.)

DISEASES.	NUMBER OF COUNTIES REPORTING, BY MONTHS.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Malarial Fever, haemorrhagic.....	4	3	2	6	1	1	5	4	1	3	4	1
	..	..	..	..	1	1	1	3	3	3	4	..
Malarial Fever, pernicious.....	1	1	..	2	2	1	5	5	1	..	1	1
	..	1	..	..	1	2	2	2	5	2	2	..
Measles	15	26	34	29	26	21	11	5	7	9	5	4
	16	22	23	22	17	9	5	4	3	..	..	3
Meningitis	2	2	..	..	..	..	..	..	1	..	..	..
	1	..	..	..	..	..	1	..	..	..	..	..
Milk Sickness .....	..	..	..	..	..	..	..	1	..	..	..	..
Mumps	4	3	7	5	1	2	..	..	..	1	1	1
	2	2	1	1	1	1	..	..	..	..	1	..
Pneumonia	21	24	26	13	5	..	2	2	1	3	8	12
	20	17	18	9	4	..	..	2	3	6	14	..
Pink Eye (horses) .....	..	..	1	..	1	1	1	..	..	..	..	..
Rabies .....	..	..	1	1	..	..	..	1	..	..	..	..
Rheumatism	3	3	4	4	2	..	1	..	..	1	2	..
	2	..	3	..	1	..	..	..	..	..	..	..
Rotheln .....	..	..	..	2	1	..	..	..	..	..	..	..
Scarlatina	1	6	6	2	3	1	..	1	2	2	2	..
	..	2	1	4	3	4	4	2	4	2	3	..
Small-Pox .....	..	..	1	..	..	..	..	..	..	..	..	..
Staggers (horses)	2	1	2	1	..	..	1	4	..	1	1	..
Tonsillitis	1	2	..	1	..	..	1	2	3	2	5	..
	1	1	1	1	..	..	..	2	5	..	..	..
Typhoid Fever	19	6	10	7	13	27	34	38	38	32	20	10
	7	5	5	7	10	22	34	23	25	25	24	16
Typho-Malarial Fever .....	..	..	..	..	1	1	3	..	3	3	..	..
	..	..	..	..	..	2	2	..	1	3	1	1
Varicella	2	2	3	..	1	..	..	..	..	..	1	1
	1	2	1	1	2	..	1	..	..	..	..	..
Whooping-Cough	10	9	17	11	16	12	12	12	14	10	9	..
	11	12	12	16	18	17	16	16	12	15	9	..

TABLE IV.—TABLE OF MORTUARY REPORTS FROM TOWNS FOR YEAR ENDING DECEMBER 31, 1891.

TABLE No. IV.—TABLE OF MORTUARY REPORTS, ETC.—Continued.

TOWNS AND REPORTERS,	RACE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total by Races.	Grand Total.	DEATH-RATE (ANNUAL) PER 1,000 BY MONTHS—1891.						POPULATION.											
																January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total by Races.	For the Year.	Total by Races.	By Races.	Total.	
Salisbury	W	5	4	6	1	2	6	4	3	3	2	5	3	44	81	21.4	17.4	25.7	4.2	8.6	25.2	16.8	7.0	21.1	12.6	15.4	2.85	4,500	18.0	1,650	4,500		
Dr. J. J. Summerell.	C	0	3	3	4	2	5	4	3	4	2	6	1	37	0.0	20.5	25.7	29.0	14.1	36.3	29.1	29.9	26.6	12.6	43.6	7.3	23.0	18.0	1,650	1,650			
Statesville	W	3	5	1	2	1	1	1	2	4	2	2	5	30	18.0	34.7	6.0	12.0	6.0	6.0	12.0	24.0	12.0	12.0	12.5	2.000	2,500	2,000	2,500	2,500			
Dr. M. W. Hill.	C	0	0	1	0	0	1	0	1	0	2	0	5	0.0	0.0	0.0	24.0	0.0	0.0	24.0	0.0	0.0	43.0	0.0	10.0	12.0	10.0	500	500	500	500	500	
Tarboro	W	1	0	1	0	4	0	2	3	0	2	0	1	14	35	9.5	0.0	9.5	0.0	38.1	0.0	19.1	28.6	0.0	9.5	10.9	14.8	1.25%	1,112	1,112	1,112	1,112	
Dr. D. Williams	C	3	2	0	1	2	2	3	1	1	2	1	3	21	32.3	21.5	0.0	10.8	21.6	21.6	32.3	10.8	21.6	10.8	32.4	18.9	14.8	1.25%	1,112	1,112	1,112	1,112	
Warrenton	W	0	0	1	0	0	1	1	0	1	0	1	2	4	0.0	0.0	0.0	11.4	0.0	0.0	11.4	0.0	0.0	11.4	0.0	0.0	11.4	0.0	0.0	11.4	0.0	0.0	
Dr. P. J. Macon	C	0	0	0	0	0	1	0	1	0	0	1	2	3	mos.	0.0	0.0	0.0	a	12.6	a	12.6	a	a	a	a	a	a	a	a	a	a	a
Wilmington	W	11	12	10	10	13	15	15	11	7	14	14	13	391	440	14.7	16.0	13.3	17.3	20.0	14.7	9.3	9.3	18.7	18.7	15.4	20.9	21,000	9,000	21,000	21,000	21,000	
Dr. F. W. Potter	C	21	23	26	24	22	32	24	30	29	29	19	22	301	21.0	23.0	26.0	24.0	22.0	32.0	24.0	30.0	29.0	29.0	19.0	22.0	25.1	121,000	121,000	121,000	121,000	121,000	
Wilson	W	5	2	9	1	4	2	3	4	2	3	2	6	34	55	39.0	39.0	8.0	6.0	24.0	12.0	18.0	24.0	12.0	36.0	17.0	2,000	3,500	2,000	3,500	3,500		
Dr. A. Anderson	C	3	0	1	0	4	4	5	1	0	2	1	21	55	24.0	24.0	8.0	0.0	32.0	40.0	8.0	0.0	16.0	8.0	0.0	14.0	1,500	1,500	1,500	1,500	1,500		

TABLE V.—TABLE OF MORTUARY REPORTS FROM TOWNS FOR YEAR ENDING DECEMBER 31, 1892.

TABLE V.—TABLE OF MORTUARY REPORTS FROM TOWNS FOR YEAR ENDING DECEMBER 31, 1892.—Continued.

TOWNS AND REPORTERS.	RACE.	DEATH-RATE (ANNUAL) PER 100 BY MONTHS—1892.												POPULAT'N.						
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.							
Oxford.....{	W	0.4	1.3	0.2	1.2	0	1	1	16	63	0.0	28.2	7.1	14.1	7.0	9.4	7.1	7.0	1,700	
Dr. P. Booth	C	0.1	6.4	4.10	6.4	2	3	3	4	47	0.0	7.5	45.0	30.0	30.0	22.5	7.5	30.0	1,600	
Raleigh.....{	W	11.8	9.6	11.15	25.15	9.12	13.10	14.1	323	16.5	21.0	13.5	9.0	16.5	22.5	13.5	18.0	15.0	8,000	
Dr. James McKee...{	W	10.13	10.9	19.24	22.45	12.15	14.16	17.9	8	8	a	a	a	39.0	15.0	12.0	0.0	0.0	1,700	
Rockingham.....{	W	2.2	1.1	0	0	0	2	0	6	2	0	0	0	0.0	0.0	17.1	39.0	0.0	4.3	
Dr. J. M. Stanisill...{	C	0	0	0	0	0	1	1	0	2	10	15	40.0	0.0	15.0	30.0	0.0	0.0	700	
Rocky Mount.....{	W	2.2	0	1	2	0	0	0	2	1	10	15	30.0	0.0	30.0	30.0	0.0	0.0	800	
Dr. Geo. Wimberly	C	1.1	0	0	1	1	0	0	0	5	30.0	0.0	30.0	a	30.0	3.0	0.0	15.0	1,200	
Salem.....{	W	a	a	a	a	a	a	a	4	4	a	a	a	a	a	a	a	0.0	400	
Chm. Bd. of Health...{	C	a	a	a	a	a	a	a	0	0	0	0	0	0	0	0	0.0	0.0	3942	
Salisbury.....{	W	2.3	4.0	4.5	4	2.5	2.0	35	71	8.4	10.3	16.9	0.0	12.6	21.0	16.9	16.0	8.0	3,000	
Dr. J. J. Summerell...{	C	14.1	1.4	0.2	3.3	0	2	2	4	36	101.8	6.0	7.3	29.1	0.0	14.5	21.8	18.0	0.0	5,000
Scotland Neck.....{	W	0.1	1.2	1.1	0	2	0	0	1	0	9	17	0.0	20.0	15.0	30.0	15.0	0.0	700	
Southport.....{	W	1.0	0	3	a	a	a	a	0	0	4	10	30.0	0.0	0.0	0.0	0.0	0.0	400	
Statesville.....{	W	1.3	0	1	3	3	3	2	4	20	6.0	18.0	0.0	6.0	18.0	18.0	12.0	24.0	2,000	
Dr. W. J. Hill.....{	C	0.1	0	0	0	0	0	0	0	1	0.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	2,500	
Tarboro.....{	W	2.1	5.1	4.5	3	1	2	2	1	4	31	19.1	12.0	47.7	9.5	38.1	47.7	32.7	9.5	1,258
Dr. D. Williams.....{	C	0.4	1	4	1.2	1	1	2	4	22	0.0	40.0	10.8	43.1	10.8	10.8	13.3	10.8	21.6	1,112
Washington.....{	W	2.2	3	1	a	a	a	a	6	18	a	8.6	18.0	6.0	a	a	a	a	2,800	
	C	a	2	6	4	a	a	a	12	12	13.3	45.0	30.0	a	a	a	a	a	1,800	

TABLE V.—TABLE OF MORTUARY REPORTS FROM TOWNS FOR YEAR ENDING DECEMBER 31, 1892.—Continued.

TABLE VI.—SHOWING CAUSES OF DEATH FOR THE YEAR ENDING DECEMBER 31, 1891.

TOWNS.	RACES.	TOTAL DEATHS.	BY RACCS.	BY TOWNS.	DEATHS INDOOR.	FIVE YEARS.	REMARKS.
Asheville	{ Colored	2 0	0 0	1 1	2 1	4 1	For four months—January, March, August and September.
Charlotte.....	{ Colored	0 0	0 0	0 0	0 0	0 0	For three months—January, February and March.
Durham	{ Colored	1 0	0 0	1 0	1 0	1 0	For eleven months; January omitted.
Fayetteville..	{ Colored	0 5	0 0	1 0	0 0	0 0	For nine months; January, July and August omitted.
Goldsboro	{ Colored	1 0	0 0	0 0	0 0	0 0	For ten months; July and November omitted.
Henderson	{ Colored	1 0	0 0	0 0	0 0	0 0	For twelve months.
Oxford	{ Colored	2 0	0 0	1 0	0 0	0 0	For twelve months.
Raleigh	{ Colored	2 0	0 0	0 0	0 0	0 0	For twelve months.
Salisbury.....	{ Colored	3 0	0 0	1 0	0 0	0 0	For twelve months.
Tarboro.....	{ Colored	2 0	0 0	0 0	0 0	0 0	For twelve months.

TABLE VI.—SHOWING CAUSES OF DEATH—Continued.

TOWNS,	RACES.	TOTAL DEATHS.	DEATHS UNDER FIVE YEARS.		REMARKS.
			BY RACES.	BY TOWNS.	
Warrenton ...	{ White. Colored	3 0	0 0	0 0	For five months—January, February, April, June and August.
Wilmington...	{ White. Colored	1 0 15	1 2 1	13 15 37	11 45 28
Greensboro...	{ White. Colored	1 0 0	0 0 0	0 1 2	All other Diseases.
Statesville...	{ White. Colored	2 0 0	2 0 0	3 1 0	Accident and Diseases.
Wilson	{ White. Colored	1 0 0	0 0 0	0 0 0	Neurotic Diseases.
Hillsboro	{ White. Colored	1 0 0	0 0 0	1 0 0	Diarrhoeal Diseases.
Total	{ White. Colored	20 16	12 1 23	6 1 9	52 44
					18 45
					30 39
					78 81
					226 309
					11 1
					5 53
					42 53
					611 775
					1,386 510

TABLE VII.—SHOWING CAUSES OF DEATHS FOR YEAR ENDING DECEMBER 31, 1892.

TOWNS,	RACES,	TOTAL DEATHS.		By Towns.	By Races.	Under Five Years.		REMARKS.
		White	Colored			Still-born.	Suicide.	
Asheville.....	{ White	18	8	9	0	12	15	For 8 months; January, February, March and August omitted.
	{ Colored	6	0	0	0	5	21	0
Charlotte.....	{ White	5	0	3	4	2	7	For 5 months—July, September, October, November and Decr.
	{ Colored	0	0	2	11	5	1	October, November and Decr.
Durham.....	{ White	2	0	0	3	0	10	For 5 months—January, March, April, May, June, July, September, October, November and Decr.
	{ Colored	0	1	0	0	0	6	For 5 months—January, March, April, May, June, July, September, October, November and Decr.
Fayetteville....	{ White	0	0	2	0	0	3	For 10 months; March and October omitted.
	{ Colored	0	1	0	4	0	6	For 10 months; March and October omitted.
Goldsboro.....	{ White	3	0	6	0	1	6	For 10 months; March and October omitted.
	{ Colored	4	0	0	1	0	4	For 10 months; March and October omitted.
Greensboro.....	{ White	1	0	0	0	0	0	For 10 months; March and October omitted.
	{ Colored	0	0	0	0	0	0	For 10 months; March and October omitted.
Henderson.....	{ White	1	0	0	0	0	1	For 10 months; March and October omitted.
	{ Colored	3	0	2	0	0	5	For 10 months; March and October omitted.
Hillsboro.....	{ White	1	0	0	0	0	1	For 10 months; March and October omitted.
	{ Colored	0	0	0	0	0	0	For 10 months; March and October omitted.
Oxford.....	{ White	3	0	0	0	0	1	For 10 months; March and October omitted.
	{ Colored	1	0	1	0	0	2	For 10 months; March and October omitted.
Raleigh.....	{ White	9	1	2	0	0	0	For 10 months; March and October omitted.
	{ Colored	11	0	5	0	10	17	For 10 months; March and October omitted.

TABLE VII.—SHOWING CAUSES OF DEATH—Continued.

TOWNS,	RACES,		TOTAL DEATHS,	BY TOWNS,		BY RACCS.,	BY TOWNS,	BY RACCS.,	REMARKS.
				Under Five Years,	Over Five Years,				
Rockingham	White Colored...	1 0	0 0	0 0	1 1	0 0	0 0	0 0	5 4
Rocky Mount...	White Colored...	0 0	0 0	0 0	0 0	0 0	0 0	0 0	9 5
Salisbury.....	White Colored...	0 5	0 0	0 0	2 3	0 0	1 0	5 2	15 3
Scotland Neck.	White Colored...	0 0	0 0	0 0	1 1	0 0	1 0	0 0	71 37
Southport.....	White Colored...	1 0	0 0	0 0	2 0	1 0	1 0	0 0	13 8
Statesville.....	White Colored...	2 0	1 0	0 0	2 0	0 0	4 0	7 0	21 9
Tarboro.....	White Colored...	3 0	0 0	0 0	6 2	1 1	1 1	10 5	53 21
Weldon.....	White Colored...	0 0	1 0	0 0	2 0	1 0	0 0	5 1	31 22
Wilmington....	White Colored...	6 5	7 8	1 4	0 0	8 18	15 33	9 118	161 275
Wilson.....	White Colored...	4 1	0 0	2 2	0 0	5 9	1 2	4 1	31 0
Total.....	White Colored...	49 36	1 2	22 21	11 4	71 6	62 76	20 117	248 103
							62 53	102 26	96 384
									1,760 974

For 8 months; January, February,
March and April omitted.

For 10 months; June and August
omitted.

For 8 months; May, June, July
and October omitted.

For 9 months; September, October
and November omitted.

GENERAL REVIEW OF STATISTICAL TABLES.

Cholera—During the past two years sporadic cholera was reported from three counties, one each in January and February, 1891, and one in July, 1892.

For the past six months the subject relating to the public health of most absorbing interest has been Asiatic cholera and the danger of its obtaining a foothold in our country. When it was knocking at the gates of our chief seaport, and a few scattering cases did actually occur within the city, great concern was very naturally and properly felt all over the United States, and some of the Boards of Health of other States thought it best to distribute information and instructions on the subject. This Board, however, while keenly watching the course of the disease, was of the opinion that it would be wisest to wait for further developments—at least until it showed a tendency to spread. It adopted this waiting policy for two reasons. In the first place, it did not wish to excite our people with the apprehension of a terrible scourge, possibly precipitating a panic, unless there were very good and sufficient grounds for anticipating it. In the second place, it was afraid that if it sounded the alarm and called the people to arms, so to speak, while the enemy was still at sea, or had at most succeeded in landing only a very few scouts, they might not respond when the danger became really imminent.

While the disease has disappeared from our quarantine stations and has almost died out in Europe, we fear that it is simply in abeyance, and that the warm weather of next spring may renew it in Europe and may start into activity germs that may have slipped into our own country during the cold of winter. In any event it behooves us to look well to our defences and make ready for an attack.

Cerebro-Spinal Meningitis.—In January, 1890, as set forth in the last report, this extremely fatal disease made its appearance in the Davis School at LaGrange, and extended in February to the citizens of the town, producing such demoralization as to cause the suspension of the school and its ultimate removal to another part of the State. During that biennial period it was reported from eleven counties altogether, while in 1891 it appeared in only two counties, and has not been reported at all during the current year.

Consumption.—As a supplement to what appears under this head in the proceedings of the conjoint session of 1892, we would give the mortuary statistics for the last two years, which emphasize the disparity in the death-rate in the two races. In a total white population of 57,000 the number of deaths was 120 or 2.1 per thousand, while in a total colored population of 40,000 residing in the same towns it was 212, or 5.3 per thousand. As possibly of some effect in causing this great difference in the death-rate, the habit which is almost apparently a racial peculiarity which the negroes have of sleeping with their heads covered, thereby breathing an impure and devitalized air a considerable part of the time, may be cited.

Diphtheria.—This dreaded disease, we are glad to state, has been decidedly less prevalent, and was not reported from a single county during the months of July and August, 1891. It has, moreover, been apparently of a milder type, the deaths reported from the various cities and towns keeping a record being only 13 as against 28 for 1889-'90. This does not mean, however, that it may not prevail in a more virulent form at any time, and it is of the highest importance that the people should not only realize its dangerous character, but the fact that it is contagious and the necessity for isolation of the patient, and after recovery or death the proper disinfection of the room, furniture and clothes.

Influenza ("*La Grippe*"), which was so widely prevalent in 1890 and 1891, has almost disappeared from the State, only two counties reporting it since April last.

Malarial Fever.—While the milder forms have been less frequent, the severer varieties, the haemorrhagic and the pernicious, have been more so, according to the reports from the County Superintendents of Health. Notwithstanding this, however, the mortuary reports from the towns show the deaths in 1889-'90 to have been two-thirds greater in number than in 1891-'92. The striking effect of the proper application of sanitary principles in weakening and in many cases practically annihilating this wide-spread and insidious miasmatic poison, which causes so much sickness and so many deaths amongst us, is well known to sanitarians, and it is the intention of the Board to prepare and widely disseminate among the people the necessary information in such form it is hoped as to attract their attention and convince their judgment. It is believed that the not remote future will show a marked amelioration in this class of diseases.

Pneumonia continues to prevail at about the same level, we regret to say, since next to consumption it is the most fatal disease we have. Unfortunately, it is not preventable by any means yet discovered beyond what may be expected from a proper care of the person in cold weather, it being markedly more prevalent in such seasons, especially in January, February and March, with us, and practically absent in midsummer.

Scarlatina.—The quotations as to scarlet fever may be stated in the language of trade as "steady," the number of counties reporting its presence having been nearly the same every year for the past four. Judging from the number of deaths reported from the towns and cities it has been of a mild type. But we cannot expect it to be always so, and in itself and the serious nature of the sequelæ to which it often gives rise it is justly regarded with grave apprehension, especially by parents with young children, who are pecu-

liarily liable to it. It is particularly dangerous to the public health because of its violently contagious character and the long persistence of the poison in the furniture and clothing. By way of illustration: Sir Thomas Watson, in his "Practice of Medicine," says that a maid-servant in a family in which scarlet fever had prevailed, on returning to the house which had been abandoned for a year playfully threw around her neck a strip of red flannel that had been used in that sickness, which she found in one of the empty bureau drawers, and in a few days she had the fever. Innumerable illustrations could be given to substantiate these facts, which render it imperative that all known precautions should be taken. What those precautions are will be given under the head of "Inland Quarantine."

Small-pox.—To what was said on this subject in the proceedings of the conjoint session of the Board with the State Medical Society at Wilmington, in May, 1892, we would add that only one case has occurred within our borders during the past two years. We are indebted for our fortunate escape chiefly, we think, to the vigilance of the health authorities generally throughout the country and the system of inter-State notification agreed upon by the different State Boards of Health. It certainly cannot be attributed to any efforts on the part of the people to protect themselves by vaccination, since there has been, and we very much regret to say is, woful indifference on the subject among them, as was clearly shown during the discussion in the conjoint session; a want of appreciation of its demonstrated merits that nothing, we fear, short of the appearance of small-pox itself will overcome.

Typhoid Fever continues to be the most prevalent, and also the most fatal, of all the preventable diseases appearing in our State during the past two years. The largest number of counties reporting its presence was 38 each in July and August, 1891, and the smallest, 5 each, in February and March, 1892. The total number of deaths reported from the

towns was, in 1891 36, and in the first ten months of 1892 73, as against 66 in 1889 and 77 in 1890, in about the same total population—100,000 in round numbers. The Board, realizing its importance, hopes to redouble its efforts to diminish its ravages. With that object in view, a communication, which appears elsewhere in this report, suitable for the general public, explaining the nature of its origin and the best means of preventing its spread, has been sent to the newspapers of the State with a request to publish for the instruction of their readers.

DISEASES PREVAILING AMONG DOMESTIC ANIMALS

Glanders.—Only one case has been reported in the past two years. The proper precautions were immediately taken and the disease promptly stamped out. On account of its communicability to man this disease is of special interest.

Cholera in Hogs was reported from 64 counties in 1891 and 35 in 1892. The annual money loss to the State from this cause is quite large. From recent investigations by the Bureau of Animal Industry at Washington it appears that something can be done in the way of prevention, and with the approval of the authorities of the Agricultural Department the latest facts on this subject will be given to our farmers through its *Bulletin*.

VITAL STATISTICS.

In *The Bulletin* of the Board for November, 1891, there appeared the following:

VITAL STATISTICS IN NORTH CAROLINA.

During the past week a circular letter has been sent to the Mayor of each town in North Carolina having a population of 1,000 and upwards, setting forth the following:

There is no system of vital statistics in this State. The only semblance of such being the monthly reports sent to the State Board of Health from some ten or twelve towns in the State. Of these only a few send *regular* reports, and the great majority of them depend on the voluntary efforts of some unpaid individual to collect the data, and they have no ordinance *requiring* the registration of deaths. It is the earnest desire of the State Board of Health to correct this evil as far as in them lies, and to this end these letters have been sent out to the persons in charge of the municipal affairs throughout the State, asking their aid in the matter. These men, above all others, should have at heart the welfare of the towns and the State at large, and as there are no State laws enforcing the registration of mortuary statistics, we must depend on the different cities and towns to make their own ordinances.

A glance at the mortuary tables in *The Bulletin* of the Board of Health will lead one to notice at once the absence from these tables of such important towns as Charlotte, New Bern, Winston, Reidsville, Asheville, Concord, Elizabeth City, Washington, and a good many others which, though having a smaller population, are representative towns. These statistics are not only of importance to the Board of Health in their efforts to ascertain and remove the causes of disease and death in the State, and as a means of testing the results of sanitation; but one of the first things a prospective immigrant does, or should do, is to look into the death-rate of the place to which he is looking for a home for his family, and it is important and desirable that an accurate and official record be furnished for the information of this class.

When reports are received from towns only spasmodically, they are practically of little value, for a true estimate of the healthfulness of a place cannot be based on a death-rate calculated from a report that omits three or four months in the year, and these, probably, the months of greatest mortality. And to be of the greatest value, it must be apparent that means are adopted to *enforce* the registration of every death that

occurs within the corporate limits of the town, and the population should be definitely ascertained, not guessed at. These reports are not desired or published as an advertisement for towns offering inducements as health-resorts, but for scientific purposes—therefore we desire the actual death rate, and not one that will be attractive to home-seekers merely.

We would, therefore, urge upon the mayors and the medical profession of the towns to which these letters have been sent, the importance of having their city or town council to pass ordinances that will require the registration of each death that occurs in the town with some *paid* official, a part of whose duty it should be to forward to this office, on the first of each month, a copy of all the registrations for the preceding month. This registration should embrace in each case the name, age, sex, race, time and cause of death, and should be endorsed by the attending physician or some other reliable person. These reports will be published in the "Bulletin," and used in making up the biennial report to the Governor.

In this enlightened day it is scarcely necessary, I hope, to call attention to the great value of such a record that has been carefully kept for a number of years. Why, frequent inquiries are received at this office for information on the mortuary statistics of the State, and we have to acknowledge, with shame, that they are so meagre and unreliable as to be of almost no value.

Can we not prevail on the profession and the city and town officials to give their interest and aid to this important matter, and with the new year of 1892 start a system of vital statistics, which, though it may be imperfect at first, will soon grow to such a state of perfection as to be of great and recognized value?

Write to the Secretary of the Board, Mr. Mayor, for any information or suggestions you may desire, and he will give your letter prompt and personal attention.

THOMAS F. WOOD, M. D.,

Secretary.

Wilmington, N. C.

Although the number of towns sending in mortuary reports has somewhat increased, the response to the appeal was far from encouraging. We believe it to have been due to the indifference that arises from an imperfect understanding of the matter. No live, wide-awake town in these progressive days can afford to be without some provision for looking after its health interests. Selfish consideration for its own material advancement, to say nothing of a decent regard for the health and lives of its people, should, it seems to us, be sufficient to bring it about. But it appears that it

has not been the case, and the Board proposes to renew its efforts, resorting not only to letters but to personal interviews with the authorities of the more important towns if required. The necessary blanks, with other machinery, will be supplied, so that a start may be made with the smallest expenditure of effort and money possible.

It is of the highest importance to the cause of vital statistics in this State that the towns should collect them. It cannot be done with fullness and accuracy in rural districts but it can be in towns and cities with comparatively little trouble and expense. If satisfactory mortuary statistics could be obtained from the towns having one thousand or more inhabitants scattered all over the State from Elizabeth City to Asheville we would have reliable samples of the health conditions obtaining in every section. At present, certain of the best insurance companies, we are informed, will not permit their agents to write a policy for anyone residing east of the Wilmington and Weldon Railroad. We are satisfied that if full health reports that might be relied upon could be obtained from that section, not only the discrimination made against it by the insurance companies, but also by prospective immigrants, would be done away with. And not only would these reports be of benefit in the manner indicated, but they would stimulate the municipal authorities in all sections to greater effort in carrying out proper sanitary regulations in order to diminish as far as possible the death-rate. The effect of this in saving the people from much avoidable sickness and many deaths that need not occur, can be seen at a glance.

In this connection it is proper to say, that owing to the failure of many County Superintendents to send in their monthly reports altogether, or, when they did, with promptness and regularity, it was deemed advisable to appeal to them in the following communication which appeared in *The Bulletin* for November, 1892:

A WORD WITH THE COUNTY SUPERINTENDENTS OF HEALTH.

One of the duties of the Secretary of the State Board of Health is the preparation for publication by the State of our *Monthly Bulletin*. It is evident that the fresher the sanitary news it contains the more valuable it is. If anything is to be done, the very fact that it is done promptly adds to its effectiveness. It is also desirable, of course, that when anything is done it should be done as well as possible. We cannot claim that the issue of a bulletin of news that is a month old is a creditable performance, but under the conditions that now obtain we can do no better. Unless the matter is on hand it certainly cannot be published.

My first experience in getting out this number has brought forcibly to my attention certain obstacles to carrying out the above ideas, which all will, I think, admit to be sound; and it is because these obstacles can only be removed by the County Superintendents that I make this appeal. In this connection, in relation to the matter of promptness of publication, I would respectfully call attention to the fact that many Superintendents send in no report at all, (in this issue 22, or more than 33 per cent., have failed altogether to report), and to the further fact that very many have been very dilatory in performing that duty.

The frequent occurrence of "No report" shows an amount of carelessness or indifference that must appear to our readers as very discreditable. It looks so thriftless and "slack-twisted," as the old-time folk would say, that we should not longer make such an exhibition of ourselves to other Health Boards and sanitarians generally to whom *The Bulletin* goes. In section 8 of the act relating to the Board of Health these words occur: "A failure to report by the tenth of the month for the preceding month shall subject the delinquent to a fine of one dollar for each day of delinquency, and this amount shall be deducted from the salary of the Superintendent by the Board of County Commissioners on authenticated statement of such delinquency by the Secretary of the State Board of Health." Men of spirit can easily understand how repulsive to my feelings it would be to call the attention of the County Commissioners to such delinquencies for the purpose of punishing the delinquent by curtailing his salary, already in most instances ridiculously meagre. It may be my duty to do so, but I cannot bring myself to it while I believe, as I do, that the gentlemen at fault in this respect are so unintentionally and need only to have the importance of promptness brought plainly before them to insure reformation. My lamented predecessor—the most kind-hearted and long-suffering of men—was in the habit of sending a notice to those who had not reported on the 10th of the month, and waiting until the 20th before making up his "copy." Such a long delay makes it difficult to get *The Bulletin* in the mail before the end of the month. So, hereafter I shall send a reminder on the 5th of each month and wait until the 10th, the day set by the law. It is doubtless true that the principal cause of delay on the part of a Superintendent in sending in his

report is the delay on the part of the individual physicians in sending in their reports to him; but I would request that you impress upon them the importance of promptness, and that you do not wait on them longer than the 5th. I would also beg of you not to fail to send in some kind of a report, no matter how incomplete, that the words "No report" may not appear in our future issues.

Now, gentlemen, will not every one of you show interest enough in this matter of sending in your monthly reports to let me have them immediately on receipt of the notice at the very latest, and sooner, if possible? By so doing you will fulfil a duty required of you by the law under which you hold office, and at the same time forward the health interests of the State.

Do you need blanks for your own reports or for distribution among the physicians of your county? If so, notify me by postal card and I will immediately supply you.

The new Secretary of the State Board does not claim to be the possessor of all sanitary knowledge, and he would therefore thank his associates in the beneficent work of preventing disease—the County Superintendents, as well as all other humane physicians who must be interested in it—for any suggestions they may think proper to make. Such suggestions would be gratefully received, carefully considered, and utilized whenever practicable. It is a grand work we are engaged in, and to make it really effective we must all pull together with a will.

RICHARD H. LEWIS, *Secretary.*

And since there was much complaint on the part of the Superintendents that the other physicians would not report to them, the Secretary availed himself of an opportunity to send out, without expense to the Board, the following circular letter to every licensed physician in the State whose address was known:

To the Members of the County Boards of Health:

DEAR DOCTOR—It is the desire of the State Board of Health to make its work as effective as possible. To that end, the prompt report of diseases dangerous to the public health is of the highest importance.

The County Superintendents of Health complain that many physicians, members of the County Boards, as all licensed physicians are *ipso facto*, fail altogether to make such reports to them. If you have not heretofore done so, will you not now kindly lend your aid to the good work we are trying to accomplish by reporting such cases *promptly* on the first day of each month for the month just past to the Superintendent of your county? He will gladly supply you with the proper blanks if you have none.

Very truly,

Raleigh, N. C.

RICHARD H. LEWIS, *Secretary.*

QUARANTINE.

INLAND QUARANTINE.

The act relating to the Board of Health, section 9, says: "Inland quarantine shall be under the control of the County Superintendent of Health, who, acting by the advice of the Local Board, shall see that diseases dangerous to the public health, viz., small-pox, scarlet fever, yellow fever and cholera, shall be properly quarantined or isolated at the expense of the city or town or county in which they occur." But unfortunately the County Superintendent is not always notified, and there is no provision in the law requiring specifically such notification to be given and in that respect it should be amended. That no one has a right to jeopardize the health and lives of his neighbors is too plain a proposition to require argument. No question of inconvenience, or any other consideration on the part of the family or the attending physician, should excuse a failure on the part of the latter to report immediately upon the making of the diagnosis a case of either of the diseases above mentioned to the County Superintendent, whose duty in the premises is defined. But not sufficiently so, for no instructions are given as to disinfection, which is second only in importance to isolation. The complete disinfection of the room and of all articles at any time exposed to the effluvia from the sick person, as well as prompt notification by the attending physician, should be made compulsory by the imposition of a penalty for neglect—as is the case already in the latter respect in our capital city of Raleigh.

MARITIME QUARANTINE.

Our chief seaport, Wilmington, is our most exposed point, and is the gateway through which the diseases most dangerous to the public health—cholera and yellow fever—are

most likely to effect an entrance into our State. It is, therefore, of peculiar importance that our defences at that point should be made as strong as possible. During its meeting in Wilmington, on September 7, 1892, the Board visited the Quarantine Station at Southport in a body. We cannot say truthfully that we inspected the Station for there was no Station to inspect, but we did confer with the quarantine physician, Dr. W. G. Curtis, and found him, we are glad to say, well informed as to the duties of his office, and from all we could learn, performing them with all faithfulness and as thoroughly as the circumstances would allow. The quarantine facilities of the port are totally inadequate and proper provision should be made without delay by the incoming Legislature. As to what is needed, we would refer the reader to a letter from Dr. Geo. G. Thomas, President of the Quarantine Board of Wilmington, printed in another part of this report.

The city and State have been very much blessed in having a conscientious quarantine officer of such ability and experience as Dr. Curtis. Thanks to his efforts, ably seconded by the other members of the Quarantine Board, the late Secretary of this Board, Dr. Thomas F. Wood, and Dr. George G. Thomas, and since the death of the former, Dr. T. A. Burbank, no pestilential disease has been allowed to effect an entrance for many years. But we have no right to expect an indefinite continuance of such good fortune, and preparation should be made to resist an assault in force—and at once, in view of the threatened invasion of cholera next spring or summer. “In time of peace prepare for war,” is an axiom that we cannot afford longer to neglect.

INSTRUCTIONS FOR THE PEOPLE IN MATTERS OF HYGIENE.

This is really the most important work of the Board. No law can be successfully administered unless it is supported by public opinion. In the minds of those who are informed on the subject, there is no question of the very great value of sanitation to the people, of the wisdom of most of the statutory laws bearing thereon, of the rules and regulations promulgated by those having charge of the health departments or of the great benefits that have been derived and can be obtained in still larger measure from their proper application and enforcement. But the great body of the people are ignorant of sanitary principles, and, consequently, do not appreciate their value nor the importance of making a personal application of them. Not perceiving the reason for the law or regulation, they often practically refuse to submit, or yield a grudging and half hearted obedience that is but little better. Besides, this condition of public sentiment is inimical to the establishment of local boards of health, or the appointment of health officers, especially if any tax is required. To overcome this indifference arising from ignorance is, as said above, our most important work at this stage of our sanitary development. We must educate the people on this line. The time to begin with the individual citizen is in childhood and the place the public school, for the reason that instruction on this subject can be therein obtained with greater certainty and on a larger scale at the period of life when the mind is most susceptible to new impressions. It is gratifying to note that the teaching of hygiene in our public schools is compulsory, but we think the selection of the text-books on that subject should be given to the Board of Health, or, at least, submitted to it for approval. But it will be very many years before the school-children of to-day are the heads of

families or directors of the affairs of State, and we must reach those who are now in charge. To that end, in addition to our regular monthly *Bulletin* embodying the health reports from the various counties and municipalities, together with sanitary suggestions and the occasional distribution of pamphlets and circulars through the mails, we have recently inaugurated the plan of publishing, from time to time, in such of our newspapers as will print them without charge for the instruction of their readers, short articles on health subjects of a plain and practical character. The two that have been issued up to the present time, together with the circular letter sent to all the editors, are appended.

While we admit that most of the sanitary seed we wish and intend to sow broadcast over our State will, in accordance with the natural law applying to all kinds of seeds, fall by the wayside, on stony ground or among thorns, we feel sure that some will fall on good ground and bring forth fruit—some thirty, some sixty and some an hundred fold. Every seed that takes root and brings forth fruit will scatter other seeds in its neighborhood and there is no computing what the total effect may be in a few years.

THE NORTH CAROLINA BOARD OF HEALTH,

Office of the Secretary.

RALEIGH, N. C., October 6, 1892.

Editor

DEAR SIR:—It is the desire of the North Carolina Board of Health to convey to the people of the State in every practicable way information and instruction as to the preservation of their health. Will you, therefore, in that interest of your readers, kindly publish the enclosed?

Would you also be good enough to publish other short practical articles on health subjects which I would be pleased to send you from time to time, say about once a month?

Yours truly,

RICHARD H. LEWIS, M. D.,

Secretary.

ANNOUNCEMENT BY THE SECRETARY OF THE STATE BOARD OF HEALTH.

In the death of Dr. Thomas F. Wood, of Wilmington, late Secretary of the North Carolina Board of Health, the State lost one of its most patriotic and useful sons. He was an able, conscientious and accomplished

physician, an amateur botanist of note, editor and proprietor from its beginning of the present *North Carolina Medical Journal*, always in the forefront of those working for the elevation and advancement of his profession, and doing more to promote both than any man we ever had; but the nearest thing to his heart, second only to his love for his Divine Master, was the North Carolina Board of Health—which was originated by him and kept alive during the years of its feeble infancy only by his personal devotion and sacrifice of both time and money—and through it the welfare of the people of his State.

Having been honored by the Board in my election to the Secretaryship made vacant by his decease, I cannot assume the duties and responsibilities of the office he adorned without thus testifying to his high and admirable qualities, the loss of which is irreparable.

In taking up this work I feel that it would be well to remind the people of the State that the Board of Health was created for their benefit—for the purpose of acquiring and distributing as thoroughly as possible information and instruction as to the best means of preventing disease. Any citizen of the State, therefore, desiring such information would confer a favor by writing to the Secretary, who would cheerfully answer his inquiries.

The subject of pre-eminent interest at present is the epidemic of cholera threatening our country. The Board has watched the indications with sleepless eye, and has given the subject the most thoughtful consideration, but it has not deemed the danger imminent enough at any time to justify publications which would probably excite and alarm unnecessarily many of our people. The danger is daily growing less, and the Board does not anticipate any trouble during the coming winter, but fears the awakening in the warm weather of spring of the germs which may slip into the country during the cold weather, when the vigilance of the health officers at our ports is liable to be relaxed. Should its fears be justified, the people may rest satisfied that it will exhaust every means within its power to keep it out of our State. From time to time the Secretary proposes to publish, in all the papers in the State kind enough to print them, short practical articles on matters relating to the preservation of health. In the meantime, if you need information or advice on such subjects, write to

RICHARD H. LEWIS, *Secretary,*
Raleigh, N. C.

• HEALTH NOTES FOR THE PEOPLE FROM THE N. C. BOARD OF HEALTH.

Typhoid Fever.

The fact that a much larger number of persons die in our State from typhoid fever than any other preventable disease, suggests the propriety and the importance of bringing to the attention of our people certain facts in regard to its origin and the best way to check its spread.

The mere mention of cholera and yellow fever, those strange and foreign pests, suggests to everyone the advisability of taking every precaution against them; but typhoid fever, which in the course of years slays its thousands, where hundreds or even tens succumb to the former, is regarded as a matter of course, a necessary evil to be endured, and not a thought as to the prevention of its spread is given. This indifference is doubtless due to ignorance of its true nature and of the proper weapons with which to fight it, otherwise such disregard of the safety of others would be criminal, as I think will sufficiently appear later on.

Typhoid fever is a specific disease, that is, it is not produced by general conditions, but comes from a special gerin or seed, just as no concatenation of circumstances known to man could produce a crop of wheat unless the seed wheat be first put into the ground. These germs or seeds flourish in water, not necessarily impure water, according to the chemical tests, and while it is possible that they may be breathed into the system, the accepted opinion is that they are almost invariably swallowed, taken in with our drink.

Where do they come from, and how do they get into our drinking water?

The characteristic lesion, as we doctors say, in typhoid fever is an ulceration of the small intestine in certain little glands called Peyer's patches. These ulcers are caused by the germs which are present in myriads, and which are carried out of the body in every evacuation. The discharges are thrown out on the ground usually. The germs, which are very hardy, soak through the soil into our wells, or those of our neighbors at perhaps some distance, or are washed by heavy rains into streams which furnish the water-supply of towns and cities.

As mere abstract assertions are not apt to make much impression, I will give an illustration in the concrete, demonstrating the truth of what I have asserted.

In the Spring of 1885, Plymouth, Pa., a mining town of about ten thousand inhabitants, on the banks of the Susquehanna, was visited by a fearful epidemic of typhoid fever, in which there were over eleven hundred cases, nearly all of them occurring within three months. The town was supplied with water mostly by a beautiful pure mountain stream on the steep banks of which there was only one house. To that house there came in January, a man from a distance who had typhoid fever. His dejections were thrown out on the snow, quite deep and frozen hard, and remaining so until a thaw on the 26th of March. During the latter part of the freezing weather the town was supplied by water pumped from the Susquehanna. When the snow melted and ran into the mountain stream filling the storage reservoirs, that water was turned into the mains. On the 9th of April, just fourteen days afterwards, the average time it takes typhoid to appear after exposure to its cause, the first case occurred. During the terrible scourge that immediately followed it

was demonstrated that only those drinking the mountain water were attacked, while those confining themselves entirely to using the water of wells, many of them according to chemical analysis very foul, or to that of the Susquehanna, which received the sewage from Wilkesbarre, a city of thirty thousand inhabitants, three miles above, not to speak of a number of towns higher up, escaped altogether. Could anything be plainer than that the eleven hundred people were poisoned by a water in other respects remarkably pure, in which there existed the specific germs of typhoid fever? Or can anything be plainer than the fact that if the proper precautions had been observed and the excreta of the case on the bank of the stream, been disinfected, that is, had the germs been destroyed before they were thrown out, that the pestilence would not have occurred? How criminal would his attendants have been if they had known the danger and the remedy for it. Now the object of this communication is to place upon every person who reads it the responsibility that arises from a knowledge of these three facts: 1. That typhoid fever is nearly always conveyed through drinking water contaminated by the undisinfected discharges of some person affected with that disease. It is often impossible to trace the connection in individual cases, but a great many incontrovertible proofs render such an inference, where the cause cannot be ascertained, more than reasonable. 2. That the only practicable way to prevent its spread is to destroy the germs while they are within reach by the use of a proper disinfectant. 3. That a good disinfectant can be obtained by every man, no matter how poor. There are a number, but I will mention only two: 1. Boiling. The clothing and bedclothing of the patient, especially if soiled, should be boiled for, at the very least, a half hour. 2. Milk of Lime. This is prepared by pouring on a quart of pieces of quicklime a quart of water, which will reduce the lumps to powder, whereupon three quarts more of water should be added. Keep in a well closed vessel and shake before using. Add an equal quantity to the dejecta to be disinfected and allow mixture to stand at least an hour before emptying.

The attending physician, if well posted and conscientious, will always give the same or similar directions to those above, but the best of us will sometimes nap, and if you should have a case of typhoid fever in your family and your doctor nods, wake him up.

There are a great many things about typhoid fever interesting and important for the general public to know, but I cannot impose further upon the generosity of the publisher of your paper, who kindly prints this free of charge simply for the good of the community.

RICHARD H. LEWIS, M. D.,
Secretary

ACT RELATING TO THE BOARD OF HEALTH.

As at present constituted, the State Board of Health is merely advisory in its functions, having no power to do more than collect vital statistics, give general advice in sanitary matters to the people as a whole, and particular advice only when asked. For many reasons this is the proper attitude in relation to individuals and corporations for it to occupy. But no considerable aggregation of people should be without some kind of sanitary supervision, and where the local authorities are too indifferent or parsimonious to provide it, it should be made the duty of the State Board to at least appoint a health officer to be paid by the community, as is done (*e.g.*) in Connecticut.

The good effect of the enforcement of proper sanitary rules and regulations is now so thoroughly demonstrated that this matter could not reasonably be regarded by thoughtful men with indifference at any time, but in case of an epidemic, of cholera we will say, there could be no question about it. Looked at from a sanitary point of view, no man, except a rigid and consistent hermit, liveth unto himself, and in these days of rapid and frequent intercommunication no community liveth unto itself. No community has the right to breed disease to be sown broadcast among the people of a whole State. The law should be so amended that every town may be compelled, if it neglects voluntarily to do so, to confine and stamp out as soon as possible any epidemic or contagious disease dangerous to the public health. The very presence of such a law on the statute books would cause the town authorities to look after health matters for themselves. The writer has very strong convictions on the subject of local self-government, and he believes in as little government of any kind as may suffice for the preservation of law, order and health, but self-preser-

vation is the first law of nature, and the State should provide the means for protecting an immense majority of her children against the carelessness, indifference or meanness of a few. The act should be amended in many other respects so as to give greater power to the Board to regulate sanitation in the State, but it is unnecessary to go into details at present since the Board will meet at the capital in January for the purpose of deciding upon and presenting to the General Assembly, which will then be in session, the changes and additions which they, after consultation, may deem advisable for the good of the whole people.

SPECIAL WORK OF THE BOARD.

IN THE MATTER OF THE PROPOSED REX HOSPITAL AT RALEIGH.

The action of the Board in this matter is fully set forth in the subjoined correspondence. In consequence of the resolution of the Raleigh Academy of Medicine and the report of the Committee from the Board of Health, application was made to the Superior Court by the Trustees of the Rex Hospital Fund for permission to sell the land devised by the late John Rex for the location of the hospital for the indigent sick of Raleigh called for in his will, in order to purchase other land with better sanitary surroundings. The Court granted the desired permission; the land now in possession has been advertised for sale and a more salubrious site will soon be obtained.

RALEIGH, N. C., May 7, 1892.

R. H. BATTLE, Esq., *Chairman Trustees Rex Hospital.*

DEAR SIR:—In reply to your communication of May 3, we were instructed by the Academy, at a special meeting, May 6, to send you the following resolution, which was unanimously adopted:

Resolved., That the Raleigh Academy of Medicine acknowledges the courtesy shown it by the Trustees of the Rex Hospital in inviting it to present plans and specifications for hospital buildings; but, inasmuch as the proposed site is, in its opinion, after inspecting the grounds in a body, very undesirable, if not altogether unfit, for that purpose, the Academy would respectfully request the Trustees, before erecting the buildings, to have the site passed upon by the State Board of Health, and if condemned by that authority, that an appeal be made to the Supreme Court or the Legislature for a construction of the will of the late John Rex, in view of the unsanitary condition and surroundings, as to whether the location of the hospital buildings might not be changed.

Very respectfully,

K. P. BATTLE, JR., M. D., *President.*

A. J. BUFFALOE, M. D., *Secretary.*

NORTH CAROLINA BOARD OF HEALTH,

Thomas F. Wood, M. D., Secretary,

WILMINGTON, N. C.

R. H. BATTLE, Esq., *Chairman of the Trustees of the John Rex Estate.*

DEAR SIR:—In compliance with your request, we, a committee from the North Carolina Board of Health, have visited the land devised by the late John Rex, with a view to determine, as far as we were able, its fitness for the location of a hospital for the indigent sick of the city of Raleigh.

After a thorough inspection of the land and its surroundings, we hereby submit our report as briefly as possible:

1st. In our opinion the site is not a desirable one for the purpose. It is located in that portion of the city which, according to the official reports, has the largest proportionate number of deaths and the greatest amount of sickness. Through it runs a sluggish stream, extremely liable to overflow, and which is the only receptacle for the drainage of a large area of the suburbs of the city. The land is low, devoid of timber protection, and lies directly in the course of the prevailing winds, which blow over a notoriously miasmatic stretch of broad cotton and meadow lands.

2d. To grade, drain and sewer the Rex land, preparatory to making a suitable site for the location of a hospital, a very considerable expenditure of money would be necessary.

3d. After this is done, a far greater outlay must be made to protect the hospital site from the unhealthy emanations arising from very large areas of adjacent properties now owned by private individuals.

4th. It is our opinion that the John Rex lands will be fit for the location of a hospital only after all these objectionable features in its situation and surroundings are corrected by extensive and extremely costly sanitary measures.

We have the honor to be,

Yours very truly,

*HENRY T. BAHNSON, M. D., President.**JAMES A. HODGES, M. D.**THOMAS F. WOOD, M. D., Secretary.*

IN RELATION TO COUNTY JAILS AND HOMES.

The recent work of the Board in this direction is set forth in the appended correspondence:

STATE OF NORTH CAROLINA,
OFFICE BOARD OF PUBLIC CHARITIES,
Chas. Duffy, Jr., M. D., President,
C. B. Denison, Secretary,
RALEIGH, N. C., Oct. 1, 1892.

DR. RICHARD H. LEWIS,

Secretary of the North Carolina Board of Health, Raleigh, N. C.

DEAR SIR:—By direction of the Board of Public Charities of North Carolina, a pamphlet of notes and instructions in relation to the moral and physical treatment of the inmates of County Homes, prisons, work-houses, municipal police stations, etc., is being prepared with a view of ameliorating the condition of such unfortunate persons in our State. So far as this subject includes proper sanitation, we would like to avail ourselves of the official suggestions of the State Board of Health as the proper line of suggestion; and I take the liberty to ask the favor of a copy of the same if prepared, or your formulation of a suitable sanitary code.

With great respect, yours very truly,

C. B. DENSON, *Secretary.*

NORTH CAROLINA BOARD OF HEALTH,
Richard H. Lewis, M. D., Secretary,
RALEIGH, N. C.

RALEIGH, October 25, 1892.

CAPTAIN C. B. DENSON,

Secretary Board of Public Charities.

MY DEAR SIR:—In compliance with your request to furnish rules for the sanitary management of our jails and county homes for the poor, I would respectfully submit the following. The general rules for the preservation of health apply alike to all persons, but where a number are confined in close quarters under the complete control of one having authority to enforce them, they ought to be, and can be, more thoroughly carried out than under ordinary circumstances. They are nearly all summed up in one word, *cleanliness*, and relate to the air breathed, the water drunk, the food eaten, and to the person and its surroundings:

1. *The Air.*—Sanitarians are agreed that sufficient space should be allowed to permit a complete change without sensible draft of the air therein contained at least twice every hour. To accomplish this a

minimum space is 600 cubic feet per individual, with such ventilating arrangements as to produce the required change in the air. In summer this is easily effected, but in cold weather the problem is more difficult. Without knowing the conditions peculiar to each jail or home specific directions cannot be given, of course. In a general way, however, I would suggest: For the homes which are in the country the allotment of at least 1,000 cubic feet of air-space per head, with open fireplaces and plenty of wood. For the jails, more particularly for those in which the prisoners are confined in the cells of a steel cage situated in the centre of one large room, I would recommend the use of a jacketed stove and ventilating shaft. The mode of operation is as follows: An inlet pipe of sufficient size, with a valve to diminish the amount of air in extremely cold weather, extending from the outside of the building some distance from the ground, opens under the stove. The fresh air, passing between the hot stove and the enveloping jacket, pours into the room from the top, *warmed*. A ventilating shaft with an opening just above the floor having been provided near the stove, the pressure of this influx of warm fresh air forces the cold foul air on the floor out the shaft and makes a complete circuit of the room, the point of exit being practically the same as the point of entrance. Another reason for placing this shaft near the stove is, that being warmed thereby it draws better. This arrangement is feasible at a moderate expense anywhere and should be generally adopted. Where the construction of the jail prevents its employment a large space per prisoner—at least 1,000 cubic feet—should be provided.

2. *Water*.—Purity of water is equally as essential to health as purity of air. Indeed, while bad air slowly saps the vitality, more specific diseases, as typhoid fever for example, are introduced into the system through the water we drink than through the air we breathe. To preserve the purity of the water supply no accumulation of filth of any kind, especially of human excrement, should be permitted near enough to contaminate it, either by directly draining into it, or by soaking through the ground.

3. *Food*—It goes without saying that an abundance of good, nutritious food, simple in character but well cooked, should be supplied. A due regard to variety should be observed, care being taken to furnish, in addition to the staple articles of bread and meat, fresh as well as salt, vegetables of some sort—the ordinary garden truck when in season and at other times potatoes and onions.

4. *Cleanliness*.—(a) Of the Person. (b) Of the Premises. (a) To insure the proper action of the skin, so instrumental in the causation particularly of catarrhal troubles, and to prevent the generation of vermin, cleanliness of the person is necessary. Consequently, frequent bathing, at least once a week, should be enforced. (b) Cleanliness of the premises from a sanitary point of view is of as much if not greater importance

than that of the person. Accumulations of filth of any kind afford congenial resting places for disease germs. Developing therein in enormous numbers and becoming dry, they float into the air as dust and are taken into the system through the nose and mouth, or contaminate the drinking water by settling into it if exposed in an open pail.

I have been shocked to learn that there are jails in the State infested with vermin. If such be the fact, it is an outrage on decency that should not be tolerated in a civilized community, and shows such woful incapacity on the part of the officials in charge as to entitle them to instant dismissal, if not severer punishment. When a house and its contents once become thoroughly infested with vermin, it is not always an easy matter to eradicate them, and therefore a suggestion on this point may be acceptable. Probably the best way to exterminate vermin by wholesale is by means of the fumes of burning sulphur—sulphurous acid gas or sulphur dioxide—fire and brimstone acting in concert having constituted an admirable purifier from time immemorial. The method of using is as follows: Since it takes considerable time for the gas to do its work completely, and since it is important to have it as concentrated as possible, the first step is to hermetically seal, as perfectly as the conditions will permit, every avenue of escape, no matter how small; the windows and doors being caulked with tow or cotton, as well as every other crack that can be found. Next, as the action of the gas is very much more powerful in the presence of water, the walls and all articles of furniture—everything, in short—should be well wetted. Then placing an iron vessel, containing two pounds of sulphur for each thousand cubic feet of air space in the centre of a large tub with two or three inches of water in it to prevent setting fire to the building in case some of the burning sulphur should fall out, on its legs if it is a pot and has any, otherwise on bricks, light the sulphur. As it is sometimes hard to ignite, a little alcohol poured on before applying the match would facilitate matters. The door of exit should then be closed and tightly chinked from the outside, and not opened for ten or twelve hours. During this time the prisoners, in another room, should have their hair cut short, after which they should be stripped and thoroughly washed with carbolic soap from the crowns of their heads to the soles of their feet literally. As soon as cleaned they should step into another and unpolluted room and put on fresh clothes. Their infested clothing, and bed-clothing, should be at once well boiled, and the room promptly scalded in order to destroy any vermin that might have fallen on the floor during the undressing. Before returning the prisoners to their cells the windows and doors should all be opened to allow the escape of the sulphur fumes.

The above method may be considered rather heroic, but such work can be effectively done best by wholesale, and it is, indeed, less troublesome and expensive than when done by piece-meal. There are other ways of accomplishing the purpose; simple hot water, if thoroughly applied in th-

boiling state, answering very well; but it is hard to get a sufficient quantity of boiling water at one time; it soon cools, and is, moreover, by no means so searching as the sulphur gas.

All premises, public and private, should not only be made clean, but kept so. This applies with peculiar force to those institutions whose inmates are kept in a state of close confinement—as jails, penitentiaries, and asylums for the insane—and in such a thorough house-cleaning once a week, if not daily, should be a standing order.

GENERAL REMARKS.—In connection with the care of the poor, I would suggest in addition to what has been said above, that they be kept actively employed in some light work as far as may be consistent with genuine kindness. Idleness is admittedly the handmaid of vice, and to a certain extent it undoubtedly is of disease. When the normal functions are kept in full action the blood—the life-giving current—flows freely and health is promoted; but when the mind and muscles do not fulfil the functions for which they were created that stream becomes sluggish and foul and vitality is lowered. However, it is so well known that exercise of the body with employment of the mind is conducive to health that it is not necessary to say more on this subject.

After all has been said that could be said on the subject of rules and regulations for the government of such institutions as those we have under consideration, it remains true that the most effective agency in their proper conduct is a good manager. A sensible, humane and conscientious man in charge is a *sine qua non*, and our county authorities should never permit any political or other considerations to prevent the appointment of such a man to the care of the poor, many of whom are lunatics, and of the helpless prisoners.

As the number of the insane increases from year to year without a corresponding increase in accommodations in State asylums, the question of caring for the incurable lunatics by the counties becomes more and more urgent. With a view to furnishing something practical and valuable on this line, I requested my friend, Dr. P. L. Murphy, the able Superintendent of the State Hospital at Morganton, to get up for me plans and specifications for quarters suitable for the county insane. I herewith hand you the same, and in this connection I wish to express my indebtedness not only to Dr. Murphy, but also to his amiable and efficient Steward, Mr. Scroggs, who prepared them under the Doctor's direction.

The sanitary suggestions above set forth apply to them with peculiar force because of their entire inability in most instances to help themselves; but directions as to their specific management must be left to the County Superintendent of Health. Unfortunately, however, in many if not most of our counties sufficient facilities for their proper care are not provided by the authorities, and the Superintendent is practically powerless. I will not trespass upon your time further by enlarging upon this theme beyond saying that from all I can learn the treatment of the poor

insane in some of our county homes is enough to "make angels weep"; but will cordially commend to you an admirable and eloquent paper on "The Care of the Insane of our State Outside of the Asylums" by Dr. J. A. Hodges, of Fayetteville, a member of our State Board of Health, published in the Third Biennial Report of the Board, a copy of which I send you.

Wishing you and your Board Godspeed in your noble work for humanity, I am

Very truly yours,

RICHARD H. LEWIS, M. D.,

Secretary N. C. Board of Health.

IN THE MATTER OF DRINKING WATERS.

Private Cisterns in Wilmington.

Application having been made to the Secretary of the Board of Health by the Rev. William McC. Miller, of Wilmington, for a permit to have analyzed by the North Carolina Experiment Station the water of two cisterns in that city, which was suspected of having caused three cases of typhoid fever, the permit was granted and the subjoined letter and analyses followed:

H. B. BATTLE, PH. D.,
Director.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION.

Analysis { Duplicate.
No. 7715. }

RALEIGH, December 20, 1892.

SIR:—The sample of health water sent to the Station for analysis in a bottle marked: "No 1. In back yard at R. W. Hicks', in proximity to sewer-pipes, from cistern," contains:

Total amount mineral matter in solution, grains per U. S. gallon	7.50
Carbonate of lime, grains per U. S. gallon	2.16
Chlorine, grains per U. S. gallon	0.41
Albuminoid ammonia, parts per million	0.230
Free ammonia, parts per million	0.096

Under the circumstances, this water should be condemned at once.

Your obedient servant,

H. B. BATTLE,

To REV. WILLIAM MCC. MILLER,
Wilmington, N. C.

B. Director.

H. B. BATTLE, PH. D.,
Director.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION.

Analysis } Duplicate.
No. 7716. }

RALEIGH, December 20, 1892.

SIR :—The sample of health water sent to the Station for analysis in a bottle marked : "No 2. In back yard at R. W. Hicks', near stable, from cistern", contains :

Total amount mineral matter in solution, grains per U. S. gallon ..	8.75
Carbonate of lime, grains per U. S. gallon ..	2.41
Chlorine, grains per U. S. gallon ..	0.50
Albuminoid ammonia, parts per million ..	0.238
Free ammonia, parts per million ..	0.08

Your obedient servant,

H. B. BATTLE,
B. Director.

To REV. WILLIAM McC. MILLER,

Wilmington, N. C.

NORTH CAROLINA BOARD OF HEALTH,

Richard H. Lewis, M. D., Secretary.

RALEIGH, N. C., December 24, 1892.

REV. WILLIAM McC. MILLER, Wilmington, N. C.

DEAR SIR :—I enclose analyses by Dr. H. B. Battle, Director of the Experiment Station, of the two samples of drinking water for analyzing which I sent you permit sometime since.

The large amount of albuminoid ammonia, plainly of animal origin from the proximity of the sewer and the stable, shows dangerous contamination, and the water should be condemned, absolutely, for drinking purposes at once.

The cisterns should be emptied, thoroughly cleansed and disinfected, and have all leaks stopped before being used again.

Your local health officer, or Dr. George G. Thomas, a member of the State Board of Health, will cheerfully give you specific directions.

Very respectfully yours,

RICHARD H. LEWIS, M. D., Secretary.

Water Supply of the Eastern Hospital at Goldsboro.

The following correspondence on this subject explains itself:

THE EASTERN HOSPITAL,
Dr. J. F. Miller, Superintendent,
GOLDSBORO, N. C., December 7, 1892.

R. H. LEWIS, M. D.,

Secretary State Board of Health, Raleigh, N. C.

MY DEAR DOCTOR :—Not long since a deep well, 305 feet deep and 6 inches in diameter, was bored at this Hospital for the purpose of securing

for our population a good quality of drinking water free from surface percolations, and also for laundry and general ward purposes. The water is clear, fairly cool and pleasant to the taste, but appears to be a little "hard," and our laundry women say it is not first-class "washing water." Being somewhat in doubt as to the quality of this water, and also unwilling that our population shall drink water not known to be of good quality, I send, per your instructions, to-day, two samples of this water to Dr. H. B. Battle, of the Experiment Station at Raleigh, for analysis, which I hope will be both qualitative and quantitative. One sample was taken directly from the well, and the other from a faucet in the Hospital building. I send through you the application to Dr. Battle that you may see what I have to say about the so-called lily and also the moss. There is no admixture of our water—all from deep well—and neither moss nor weeds were ever seen before.

Anything you can do to expedite an early analysis of the water in question will be duly appreciated by

Yours truly and fraternally,

J. F. MILLER, *Superintendent.*

NORTH CAROLINA BOARD OF HEALTH,

Richard H. Lewis, M. D., Secretary,

RALEIGH, N. C., December 14, 1892.

DR. J. F. MILLER, *Supt. Eastern Hospital, Goldsboro, N. C.*

MY DEAR DOCTOR:—Yours of 7th inst. came during my absence from home, or it would have been answered sooner.

I have seen Dr. Battle, and he will push the analyses, and hopes to make a report by the end of the week. The Botanist of the Station, though still confined to his room, is well enough to do the work; so please send up as soon as possible the samples of moss and sea-weed,(?) or whatever it may turn out to be, in separate bottles of the water in which they are growing, giving full information as to their location.

Very truly yours,

RICHARD H. LEWIS, *Secretary.*

NORTH CAROLINA BOARD OF HEALTH,

Richard H. Lewis, M. D., Secretary.

RALEIGH, N. C., December 17, 1892.

DR. J. F. MILLER, *Supt. Eastern Hospital, Goldsboro, N. C.*

MY DEAR DOCTOR:—I herewith enclose analyses of the two samples of water sent to the Experiment Station. They appear to be practically identical. The indications so far are unfavorable, but I will reserve a final opinion until after the samples of moss and sea-weed (?) found growing therein have been examined by the Botanist of the Station. They have not been received yet. Please send them as soon as possible, and oblige,

Yours very truly,

RICHARD H. LEWIS, *Secretary.*

H. B. BATTLE, PH. D.,
Director.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION.

Analysis } Duplicate.
No. 7718. }

RALEIGH, December 16, 1892.

SIR :—The sample of health water sent to the Station for analysis in a glass jar marked, " Direct from deep well at Eastern Hospital," contains :

Total amount mineral matter in solution, grains per U. S. gallon	15.83
Carbonate of lime, grains per U. S. gallon	5.00
Chlorine, grains per U. S. gallon	.116
Albuminoid ammonia, parts per million	.204
Free ammonia, parts per million	.16

Your obedient servant,

H. B. BATTLE,

To J. F. MILLER, Sup't. Eastern Hospital,

Director.

Goldsboro, N. C.

H. B. BATTLE, PH. D.,
Director.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION.

Analysis } Duplicate.
No. 7719. }

RALEIGH, December 16, 1892.

SIR :—The sample of health water sent to the Station for analysis in a glass jar marked, " Direct from faucet," contains :

Total amount mineral matter in solution, grains per U. S. gallon	14.58
Carbonate of lime, grains per U. S. gallon	5.00
Chlorine, grains per U. S. gallon	.83
Albuminoid ammonia, parts per million	.180
Free ammonia, parts per million	.154

Your obedient servant,

H. B. BATTLE,

To J. F. MILLER, Supt. Eastern Hospital,

Director.

Goldsboro, N. C.

THE EASTERN HOSPITAL.

Dr. J. F. Miller, Superintendent.

GOLDSBORO, N. C., December 21, 1892.

DEAR DOCTOR :—I am much distressed over the revelations made by Dr. Battle's analysis of our deep well water. There seems to be some difference in the analyses made at different times—more chlorine and albuminoid and free ammonia in last sample sent. The washerwomen and our engineer (and so think I) say the water is less hard now than it was a month ago; but the analysis shows too much lime and albuminoid and free ammonia. However, first analysis shows 6.25 grains lime to U. S. gallon and the last analysis shows 5 grains. I await further expression of opinion as to effects most likely to result from use of this water. The

weed has not been seen, nor moss, in the tank under roof where the sun does not shine upon the water. Nor has any weed been seen in the tank at deep well, but plenty of moss. Both moss and weed can be found in tank on the roof where the water is exposed to the sun. The water in the large tank at deep well is so deep always that it would be difficult to see any weed that might grow on bottom thereof, and weed may and probably is there also, though not visible.

Respectfully,

J. F. MILLER, *Superintendent.*

P. S. No ice has been seen this winter in any tank containing our deep well water.

H. B. BATTLE, PH. D.,
Director.

1287.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION,
Office of Director,

RALEIGH, N. C., Dec. 23, 1892.

DR. R. H. LEWIS, *Sec. State Board of Health. Raleigh, N. C.*

DEAR SIR:—In reference to the two samples of plants found growing in a tank in a building of the Eastern Hospital, sent by Dr. Miller, Superintendent, I have submitted the same to the Botanist of the Station, Mr. Gerald McCarthy, and I beg to enclose herewith his reply. It would seem impossible for the plants to have come from the deep well. Doubtless the seed of these plants came from the first source of water supply, and were not taken out when the tank was cleaned.

Very respectfully,

(Dictated.)

H. B. BATTLE, *Director.*

H. B. BATTLE, PH. D.,
Director.

THE NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION,
Office of Director,

RALEIGH, N. C.

Dr. H. B. Battle, Director:

I have examined the two samples of vegetation in tank water from Goldsboro. The long grass-like plant appears to be a species of *sagittaria*, a pond weed. The small thread-like plant is a kind of fresh-water *potoneogeton*, a floating aquatic. Both these plants are very common in small ponds and water-holes and ditches. They indicate an impure and stagnant water. They are never found in salt or brackish water. In this case, I presume they grew in the tank where found, and if such water is to be used for human or animal consumption, said tank should get a thorough cleaning and be disinfected with iron sulphate.

The plants have no particular or scientific value, as they can be found in almost every stagnant ditch.

Respectfully,

GERALD McCARTHY, *Botanist.*

NORTH CAROLINA BOARD OF HEALTH,

Richard H. Lewis, M. D., Secretary.

RALEIGH, N. C., December 27, 1892.

J. F. MILLER, M. D.,

Superintendent Eastern Hospital, Goldsboro, N. C.

MY DEAR DOCTOR:—I enclose letter from Dr. H. B. Battle, Director of the Experiment Station, together with the opinion of Mr. McCarthy, the Botanist of the Station, as to the nature of the plants found growing in the water from your deep well.

As Dr. Battle says, "it would seem impossible for the plants to have come from the deep well," and the opinion of the Botanist as to their nature and usual habitat is confirmatory of that view; but the fact that they were never seen until after you began to use the water from the deep well, and that only, throws doubt on his very natural and proper supposition that "the seed of these plants came from the first source of water supply and were not taken out when the tank was cleaned"—is it not possible that there may be some admixture of surface water by trickling down the outside of the iron casing? Is it possible for the water to be contaminated in the same way from animal excreta? Assuming a negative reply to the latter question, I beg leave to quote from a report of the Massachusetts Board of Health on the "Examination of Water Supplies (1890)," as follows: "Seeking the source of these high albuminoid ammonias we find that, when accompanied with high color, the waters have generally flowed through swampy districts, or have been in reservoirs having vegetable matter on the bottom. Others having less color have had abundant growths of algae and other forms of life, which in turn depend upon nitrogen obtained from the rain and from organic matter and nitrates brought into the ponds by surface or subterranean streams, or from organic matter in the mud at the bottom. While these large albuminoid ammonias indicate organic matter whose origin is independent of sewage, and consequently is not likely to contain the germs of disease, which are regarded as the most dangerous element of sewage; and while the albuminoid ammonias are, as in all these waters, accompanied by low free ammonias, the organic matter which they indicate may be regarded as in a state not readily susceptible to decay and therefore not dangerous to health, we have yet to recognize the fact that many of these waters, unpolluted by sewage, have at times had bad odors and disagreeable tastes, which have rendered them unsuitable for drinking." It appears also from the same report that the purest of Boston's water supplies had for the two years previous practically the same amount of albuminoid ammonia as Mystic Lake, the worst of the Boston waters and which is known to receive considerable sewage and manufacturing refuse.

Again, it is a well known fact that in former times, in the days of sailing vessels and long voyages, sea captains frequently preferred the

highly colored swampy waters for their keeping qualities. So that it does not follow that a water should be condemned on account of a relatively high amount of albuminoid ammonia regardless of its source, although Wanklyn, one of the highest authorities, says that "albuminoid ammonia over .15 per million ought to condemn a water absolutely." It must be borne in mind, however, that the waters he has in mind are those of a densely populated country and therefore much more liable to animal contamination than ours.

Taking everything into consideration—the source of your water supply, the very remote possibility of any animal contamination containing the germs of disease, the fact that it is pleasant to the eye and agreeable to the taste, and the further fact that after several months' use the health of the inmates of your institution has not deteriorated—my opinion is that the water should not be condemned, but with this proviso: that all the tanks be thoroughly cleansed and disinfected with copperas, and all the water used for drinking be filtered. I would suggest a filter of sand and charcoal, so arranged that the filtering material could be easily renewed, as it should be frequently, at least once a week or oftener. Should you adopt this suggestion I would thank you to send two samples of the filtered water, one taken twelve hours after the sand and charcoal have been renewed and the other at the end of one week, duly labeled, to the Experiment Station for analysis. Notify me and I will send you permit for the analyses.

If you should find any, even slightly probable, source of contamination, let me know and oblige,

Yours very truly,

RICHARD H. LEWIS, *Secretary.*

IN REGARD TO THE ADVISABILITY OF ESTABLISHING A
QUARANTINE SYSTEM UNDER THE MANAGEMENT
OF THE GENERAL GOVERNMENT.

STATE OF NORTH CAROLINA,

Executive Department.

RALEIGH, Dec. 9, 1892.

DR. RICHARD H. LEWIS,

Secretary to State Board of Health, Raleigh, N. C.

DEAR SIR:—By instruction from the Governor, I have the honor to enclose herewith letters from Darwin R. James, Secretary New York Board of Trade *in re* quarantine.

The Governor would take it as a special kindness if you would give him your views on this subject, and its bearing on this State and the Union, so that he can forward the same to the Board as requested.

I am, very respectfully yours,

S. F. TELFAIR, *Private Secretary.*

ROOMS OF THE NEW YORK BOARD OF TRADE AND TRANSPORTATION,
55 Liberty Street,
NEW YORK, December 5, 1892.

A special committee of the New York Board of Trade and Transportation has been appointed, pursuant to resolution, and is seeking information, data and opinions touching quarantine, and the advantages, if any, of establishing a uniform system in the United States, under the management of the General Government; the intention being, if the weight of opinion and evidence favor the proposition, to prepare suggestions for Congressional Legislation on the subject.

The members of the committee are: Chairman, Hon. Oscar S. Straus, (Ex. U. S. Minister to Turkey), of L. Straus & Sons, Importers of China, Glass, etc.; Mr. Jeremiah Fitzpatrick, of J. Fitzpatrick & Co., Importers and Manufacturers of Plate Glass, Looking Glass, etc.; Mr. Edward H. Cole, of The Eaton, Cole & Burnham Co., Well Machinery and Brass Goods; Mr. Elias S. A. DeLima, of D. A. DeLima & Co., Foreign Commission Merchants; Mr. Ambrose Snow, of Snow & Burges, Shipping and Commission Merchants.

The committee have adopted the following line of inquiry, and invite such suggestions and opinions thereon as they may be willing to make public, from experts, and professional men having practical experience of sanitary affairs and from others having opinions on the subject:

1st. Quarantine administration in foreign countries as furnishing precedents for the United States.

2d. The present status of quarantine in the United States: A. *National*; B. *State*.

3d. The existing system of quarantine administration in the United States: A. *Cost*; B. *Restrictions imposed on commerce and travel*; C. *Security afforded*.

4th. A national quarantine: A. *Would it lessen the existing imposts upon commerce?* B. *Would restrictions on commerce and travel be less injurious?* C. *Would it afford increased security to the country?*

Persons writing the committee are requested to affix to their names their professional or special titles, if any, and to address their communications to Hon. Oscar S. Straus, Chairman, 55 Liberty Street, New York, N. Y.

Respectfully, etc.,

DARWIN R. JAMES, *Secretary*.

December 14, 1892.

His Excellency, THOMAS M. HOLT, Governor of North Carolina.

SIR:—In response to your request for my views upon the circular letter of the New York Board of Trade and Transportation in relation to “establishing a uniform system (of quarantine) in the United States under the management of the general government,” I would respectfully submit the following brief general statement of them:

In the first place you will please understand that the opinions expressed are personal, and not as representing the State Board of Health, since that body has never considered this question.

Like every other question, it has two sides. Considered solely from the standpoint of the public health of the whole country, I think it not unlikely that a uniform system of quarantine under the control of the general government, with its immense resources, would be more effective than the methods now in use, and, considering the service rendered, more economical, on the well-established principle that the same work can be

done more cheaply by wholesale than by piece-meal. But is it necessary? I think not. The instinct of self-preservation, both as to life and trade, on the part of the different States and seaports may, I believe, be depended upon to insure quarantine protection, to all intents and purposes, as effective as is practicable. The very fact that the service is local, that the officials belong to the community most exposed, and are immediately responsible to their friends and neighbors, would probably make them more alert and careful than they might be if they were strangers from a distance. If all officials were entirely conscientious, there need be no fear on this score, but the ordinary principles of human nature obtain among public servants as well as private individuals. One objection to the establishment of a national system is the deadening effect upon local effort in matters of health generally the assumption by the general government of the functions that should be performed by the various States and municipalities themselves would, probably, have, the latter, thus becoming parasites, after a fashion, would, in proportion to their dependence upon a stronger power, become the more enfeebled. Again, in times of special danger. I am confident that the State and municipal health authorities would cordially co-operate, not only with one another, but with those of the United States as well, and the same practical result would be obtained with fewer drawbacks.

Finally, you and I, in common with a large majority of our people, firmly believe that in the centralization of power in the general government lies the greatest danger to our free institutions, and, therefore, as good citizens (and the citizen is not lost in the health officer) we must be thoroughly convinced of the necessity before resigning any of our rights and privileges as States and municipalities. Such a necessity does not, in the matter we are discussing in my opinion, exist; and, therefore, looking at it from every point of view, and taking everything into consideration, I am convinced that "a uniform system (of quarantine) under the control of the general government" is not advisable.

With great respect, your obedient servant,

RICHARD H. LEWIS, M. D.,

Sec. N. C. Board of Health.

INVESTIGATION AS TO OUR PORT OF WILMINGTON OF COMPLAINT OF THE BRITISH MINISTER AT WASHINGTON THAT VESSELS ARRIVING FROM TRINIDAD AND DEMARARA ARE HARSHLY TREATED AT THE SOUTHERN PORTS GENERALLY.

STATE OF NORTH CAROLINA,
Executive Department,

RALEIGH, December 19, 1892.

DR. R. H. LEWIS,

Secretary State Board of Health, Raleigh, N. C.

DEAR SIR :—I enclose herewith a letter from the Secretary of State, together with a communication made to him by Sir Julian Pauncefote, Minister from Great Britain, and also a copy of my reply.

I would be glad if you will inquire into the matter and let me know what can be done in the premises. Please return the papers enclosed with your reply.

Very truly yours,

THOMAS M. HOLT, *Governor.*

DEPARTMENT OF STATE,
WASHINGTON, December 16, 1892.

HIS EXCELLENCY *The Governor of North Carolina, Raleigh, N. C.*

SIR :—I have the honor to enclose for your information and consideration a copy of a note from the Minister of Great Britain at this capital, relative to the harsh treatment experienced by British vessels arriving from Trinidad or Demarara at the Southern ports generally, and particularly to the refusal of pratique to vessels arriving from May to November with a clean bill of health and no sickness on board.

I have the honor to request for communication to the British Legation your views as to whether it would be practicable for the proper officers of the State of North Carolina to adopt measures productive of amelioration in the future treatment of British vessels.

I have the honor to be, sir, your obedient servant,

JOHN W. FOSTER.

[Enclosure from the British Minister at Washington to the Secretary of State, December 10, 1892.—COPY.]

WASHINGTON, December 10, 1892.

SIR :—Messrs. Whimster & Watson, shipowners of Glasgow, have addressed to the Earl of Rosebery a complaint in regard to the unnecessary application of certain quarantine regulations at Savannah to their S. S., the "*Navigation*," and to the hardships endured by her crew in consequence. They complain also of the treatment experienced by vessels arriving from Trinidad and Demarara at the Southern ports generally.

I have the honor to enclose extracts from their letters from which it appears that their S. S. "*Navigation*," although twice fumigated at Havana, was subjected to two more fumigations at Savannah and put in quarantine for six days, during which no accommodation was provided for the officers and crew on shore. The consequence of their exposure to the night air and rain was that they contracted malarial fever, from which one man died and the whole crew, excepting the engineer, were stricken down during the voyage back to England.

The other complaint is of a general character and has reference to the refusal of

pratique to the vessels arriving from May to November with a clean bill of health and no sickness on board.

I venture to draw your attention to the above complaints, in the hope that you may be disposed to bring them to the knowledge of the Governors of the States referred to by Messrs. Whimster & Watson, and that your action may be productive of amelioration in the future treatment of British vessels and their crews by the quarantine authorities at Savannah and the Southern ports in general.

I have the honor to be with the highest consideration, sir,

Your obedient humble servant,

JULIAN PAUNCEFOTE,

THE HONORABLE J. W. FOSTER, etc., etc., etc.

EXTRACT.

Our S.S. "Navigation" sailed from Glasgow for Barbadoes, Trinidad and Demarara; thence she was ordered to Havana for orders. Not getting cargo there she was ordered to Savannah to load for Liverpool. On arrival in Havana she was fumigated by the Spanish Doctor, and also by the American Doctor, and for both fumigations the ship was charged. On arrival at Savannah she was put into quarantine for six days and fumigated twice.

* * * * *

Whilst lying fumigated in quarantine at Savannah, the entire crew and officers had to sleep on deck, exposed to night air and also to rain. The result was, they all contracted malarial fever. Two of them had to be put into the Hospital at Newport News, where the steamer coaled, and on the road home one man died, and every other soul on board, with the exception of the chief engineer, was stricken down by it; fortunately not all at the same time, or the ship would never have reached land.

* * * * *

Arrivals from Trinidad or Demarara are subjected to five days quarantine at the Southern ports during the months of May to November, although there may be no sickness on board, and although the vessels may have clean Bills of Health. We think that if the Captain presents a clean Bill of Health he should be admitted at once, provided there is no sickness on board. We urge you to endeavor to get some modification of this hardship which ship-owners have to undergo at the hands of the U. S. authorities.

(COPY.)

STATE OF NORTH CAROLINA,

Executive Department.

RALEIGH, Dec. 19, 1892.

To the Secretary of State, Washington, D. C.

SIR:—I have your communication of the 16th of December, enclosing a copy of a communication from Sir Julian Pauncefote, Minister from England, which I have referred to the Secretary of the Board of Health, with instructions to investigate the matter and inform me whether any abuses have been committed at ports of this State, and, if so, to have them corrected, if in their power, and, if not, to advise what legislation is necessary, and I will bring the matter before the General Assembly, soon to convene.

I have the honor to be, very respectfully yours,

(Signed) THOMAS M. HOLT,
Governor of North Carolina.

NORTH CAROLINA BOARD OF HEALTH.

Richard H. Lewis, M. D., Secretary.

RALEIGH, N. C., Dec. 29, 1892.

His Excellency THOMAS M. HOLT, Governor of North Carolina.

SIR:—In compliance with the instructions given in your communication of the 19th inst. to investigate the complaints made by the Minister of Great Britain at Washington through Secretary of State Foster in “relation to the harsh treatment experienced by British vessels arriving from Trinidad or Demarara at the Southern ports generally, and particularly to the refusal of pratique to vessels arriving from May to November with a clean bill of health and no sickness on board,” I addressed a letter (a copy of which I enclose) to Dr. George G. Thomas, of the Quarantine Board of Wilmington. I beg to hand you herewith his reply, together with a statement from Dr. W. G. Curtis, the Quarantine Physician at Southport.

The members of the Quarantine Board of Wilmington, including the Quarantine Physician, are all educated gentlemen of high character, who are not only interested in the protection of their city and State from the introduction of pestilential diseases, but also in the commercial prosperity of the port. Such being the case, I am sure that they can be relied upon with confidence not to subject vessels of any nationality to harsh treatment beyond what, in certain contingencies, might be unavoidable owing to the lack of proper facilities at the Quarantine Station as set forth in Dr. Thomas’s letter, or to unnecessary delay.

With great respect, your obedient servant,

RICHARD H. LEWIS, Secretary.

NORTH CAROLINA BOARD OF HEALTH.

Richard H. Lewis, M. D., Secretary.

RALEIGH, N. C., December 20, 1892.

*GEORGE G. THOMAS, M. D.,**Quarantine Board Port of Wilmington,
Wilmington, N. C.*

DEAR SIR:—In obedience to instructions from the Governor to investigate the complaint made by the British Minister to this country as to “the treatment experienced by vessels arriving from Trinidad or Demarara at the Southern ports generally,” I enclose communications from him, United States Secretary of State Foster and Sir Julian Pauncefote, which explain themselves. You will please report at your earliest convenience the facts as to our port of Wilmington, and oblige,

Yours truly,

*RICHARD H. LEWIS,**Secretary.*

DR. GEORGE GILLETT THOMAS,
Wilmington, N. C.,

DR. R. H. LEWIS,

December 23, 1892.

Secretary Board of Health of North Carolina. Raleigh, N. C.

DEAR DOCTOR :—I have submitted the papers of the British Minister, in which are set forth the complaints of ship-owners concerning quarantine, to Dr. W. G. Curtis, the quarantine physician of the port and beg leave to enclose herewith his reply. In addition to what he has said, let me add that it is a safe rule to follow, that the officer in charge of the Quarantine Station is a better judge of the necessity for fumigation and disinfection of vessels entering the port than the master or owners of the vessels. While it is true that, as a rule, the certificates of Dr. Bergess at Havana are usually sufficiently trustworthy as to make a vessel's claim to free pratique good, it is also true that no conscientious officer can always be guided by this certificate, but must act according to the circumstances and conditions present in each vessel. It is a plain duty of the quarantine officer to protect commerce as well as the port under his charge ; but the latter duty is paramount, and hardships that arise in its discharge are unfortunate but unavoidable. I do not believe that any vessel has ever had just cause for complaint of detention or excessive charges at this port. The detention is made as short as compatible with public safety, and the charges at present are ridiculously small. Let me direct your attention to the crying need for an improved service at our Station. At the visit of the State Board of Health to Southport in September last, this was set out for you. Since that time Dr. Curtis and I have made a trip to Charleston, S. C., where we were offered every facility for seeing the workings of the Quarantine Station of that port, and after which we wish to build ours if the Legislature will provide the means. We shall need (1) the ground, situated on a shore near the channel but remote from the passage of vessels generally. This will lead to the building (2) of a wharf, to be gradually replaced by ballast of sand and rock, on which will be placed (3) the houses of the Station, to include a house to hold the disinfection chamber and sulphur furnace, with necessary boilers and engine ; a building consisting of two houses separated by covered alleyway, one for hospital for sick and one for the detention of the crew (and passengers, if any), always during the disinfection of the ship, and longer if disease be discovered among the ship's company. Attached to this house must be one for the engineer and such help as may be necessary to properly run the Station. At present it will not be necessary to provide a house for the physician. The disinfection apparatus will include a wrought-iron cylinder, 30 to 40 feet long by 8 feet in diameter, and a carriage to convey the articles for disinfection, which enter the cylinder, by over-

head railway. This cylinder must be able to withstand a pressure of ten to fifteen pounds to the square inch of live steam and a heat of 230° F. Also a furnace in which sulphur can be converted into sulphur dioxide, and a fan to propel it through piping to the ship's hold and quarters. Also, of course, a small engine to run the fan and the boilers necessary to generate the heat and steam for the cylinder. Also a tank in which can be stored for immediate use 5,000 to 10,000 gallons of solution of bichloride of mercury 1 part to 1000 in strength. These, with the other smaller accessories, will cost in the neighborhood of \$15,000, and it is probable that the fees will run the Station, except the salaries of the officer in charge and the Board of Consultants. It is imperatively necessary that something be done at once for the Station if we propose to combat the dangers of disease next spring, summer and fall, which, according to all indications, will be greater than ever. So far as the national quarantine is concerned I agree entirely with your views, and I am not disposed to put much confidence in its efficiency, if we are to judge by the present relief stations of the Government. As far as I am informed there is but one well equipped station under the control of the Government and that is at San Francisco. I know that the arrangements at Sapelo are very poor, and the condition was the same a short time since at Chandelier Island in the Gulf. Besides, it will be at least a year before the transfer can be made and stations built and equipped, and that year is full of danger.

I shall be glad to write you again on the subject.

I am, sir, very respectfully,

GEORGE GILLETT THOMAS.

SOUTHPORT, December 22, 1892.

DR. GEO. G. THOMAS.

DEAR DOCTOR:—I do not quite understand whether I am expected to make any statement or reply to the letter of complaint as to alleged quarantine abuses of Southern ports—the complaint being general as to Southern ports. The port of Wilmington may have been one of them, although it is not specifically mentioned.

I will therefore simply say that nothing of the kind complained of has occurred at the port of Wilmington, and that nothing has been done which could reasonably cause complaint by any person who approves of usefulness in the inspection of ships and their crews, and a regard for the health of our people who *may be* at any time exposed to infection by intercourse with foreign ports.

In my intercourse with the captains of ships I have met with some (very few, I am happy to say) who are pleased with nothing and find fault with everything. These report to their owners a state of things exaggerated in every way, and by their abuse of our laws and regulations make themselves very disagreeable to deal with. I have in my mind at the

present time two of these captains, who made many threats, and who might have caused trouble if they had carried out their threats, and their owners had paid any attention to them. Yet these captains were treated with every consideration; there was inspection of their crews and the vessels; their forecastles being filthy, as is usual with all of them, were fumigated; but there was practically no detention, for the ships received free pratique on the same day they entered the port, yet they were not pleased because they did not consider the convenience or safety of our citizens as worthy of their consideration—they simply wanted to do as they pleased.

As to the Savannah cases, which we are not discussing, it may be said that every ship coming from Havana comes with a bad record, and ought to be carefully looked after; and, further, that there is not the slightest probability that the crew contracted their malarial fevers at quarantine, but it is almost certain that they contracted disease after they left quarantine and during their month's stay up the Savannah river.

The Quarantine Board of the city of Wilmington can, and justly does, disclaim any abuses of any kind whatever. They are simply working with limited means to prevent the importation of diseases, and to do it with as little interruption to commerce as possible.

I am much pleased with Dr. Lewis' presentation of the subject of a National Quarantine. It is a scheme for further centralization of power in the general government, and a job for a lot of federal officials who will not be as anxious for the public good as they will be to get their pay; and I see no reason for the opinion that the new batch of officials have more learning or a greater supply of common sense than our own people who love their neighbors and who work for their prosperity.

Very truly yours, etc.,

W. G. CURTIS.

APPENDIX.

OUR PINE FORESTS AS FACTORS OF HEALTH.

READ BY S. S. SATCHWELL, A.M., M.D., BEFORE THE MEDICAL SOCIETY
OF NORTH CAROLINA, AT WILMINGTON, MAY 17, 1892.

The eastern counties of our State present an inviting field of medical research and investigation. Comprising a vast extent of territory, a variety of climate and atmosphere, many species of the vegetable and mineral kingdom, they are covered by fertile fields, rich swamps, extensive plains and large forests of pine trees. This vast extent of territory contains at one and the same time the elements which produce pain, disease and death, and the remedies by which they are relieved and subverted. That wonderful divine, Henry Ward Beecher, said that "among the roots and herbs to be found in nearly every grave-yard there is a remedy, if only ascertained, which would have relieved over half the victims who were laid to rest in death's embrace beneath its green sod." Without commenting on this striking proposition, there are reasons for the opinion that our grand and productive State, in her eastern and western boundaries, contains elements which are susceptible of being made remedies for nearly all the diseases to which our people are liable. As we cast our eyes over our eastern boundaries there is much that is peculiar and of special interest to the medical observer. As the mysterious volume of Nature is opened to us with the laws of health and life written upon its ample pages, we behold, on the one hand, great atmospheric changes between the east and west, the exhilarating properties of our ocean breezes, the moisture of our atmosphere, particularly near the coast, interfering with the functions of the skin and de-

manding the compensating action of the liver and lung; and, on the other hand, are found, upon our plains, along our streams and in our forests and fertile fields, in rich abundance, the finest specimens of beautiful flowers, medicinal roots and herbs, that adorn the vegetable kingdom, constantly adding to the wealth of the *materia medica* and to the usefulness of medical science.

Eastern North Carolina can be complimented and congratulated not alone upon her great natural advantages and magnificent resources of minerals, water-power, wealth of climate, lands, forests and adaptation to commerce, manufactures, horticulture and agriculture, but in the way of sanitation, drinking-water, amount of disease, bills of mortality and the general health of our people, we are making great improvement, and may challenge comparison with any portion of our noble old State. Would that I could impress upon every North Carolinian the vast benefit that has accrued to the public health and the public wealth of a *procedure*, potent, talismanic, destructive to disease and efficient to remove causes of disease in all our malarious localities and destined to reduce still more, with the advancing years, the death-rate in all these eastern counties and cities. That procedure is thorough drainage. Large tracts of land, from time immemorial hot-beds of malaria and the homes of disease and pestilence, have become, by this agency alone, the abodes of health, comfort and happiness. Every year do we see effectual drainage routing this fell destroyer of our race from his old accustomed haunts and dislodging him from his strong entrenchments in the east, until it stands out as a beacon truth in the light of sanitary science that malarious diseases, in their numerous phases and changing aspects, are passing away as the years roll on.

But these diseases and their varying complications and grades are not destitute of interest still to the physician, as the changing seasons of wet or dry, cool or hot, and other atmospheric varieties, render different communities more or

less sickly. Malaria still abounds in different places as the conditions are favorable to its production, now manifesting itself in one form and then in another—sometimes intercurrent with some other disease more or less marking its features, and then assuming the shape of another malady, not always easy to diagnose and cure. It still prevails extensively, finding victims in every direction, and in every favoring locality visiting its effects upon our patients and ourselves. This invisible, *imponderable*, and yet positive agent of disease, is borne still, as in ages past, upon the wings of the morning breeze, the evening mists and nightly vapors entangle it in their meshes, and the fragrant odors of spring are treacherous with its poison.

My main object, however, in this paper, is to present the merits and claims for health, in other respects of a very large portion—more than one-half, perhaps, of the east—in the beneficence of Nature alone. I allude to the antiseptic, hygienic and preventive properties of our eastern pine tree, or the exemption of our pine forests from consumption, malaria and germ diseases. For more than three decades I have been continuously engaged in laborious country practice in our eastern counties, comprising every variety of malarious locality, whether productive of the milder forms of intermittent and remittent fevers or of the higher grades of malarial fevers as seen in severe congestions and haemorrhagic malarial fever. I have also practiced extensively during all this time upon the pine ridges and in the pine forests of numerous of these eastern counties, especially east of the Wilmington and Weldon Railroad and between Virginia and South Carolina. I have to record as the result of a long and arduous practice, based upon my observation and experience, that, while malarial diseases and their complications with other diseases are peculiar and indigenous to malarious localities, sandy regions, abounding in pine forests, are exempt from malaria, from the production of consumption, diphtheria, puerperal fever and diseases of almost

every class that are due to bacterial infection. I do not say that consumption and diseases of germ origin do not occur at all where pine forests abound, but my experience is that they are of very rare occurrence.

Look at the tall pine tree of our eastern plains and sandy soil with its absorbent powers. Its tall, columnar trunk offers less mechanical obstacle to the passage of air, and a smooth surface for the concentration of dews and vapors than any other tree of the woods. But it seems gifted with singular salubrious powers, and imbued with healing virtues and antiseptic properties in every bough. Every tree of the forest circulates, secretes and eliminates, as long as alive, its specific and peculiar effluvia. The pine has its ozone. Though no chemical analysis has been made of its exhalations, it is reasonable to conclude that they may possess certain unseen virtues, specific chemical properties and affinities which may enable them to mitigate, neutralize, decompose or render inert malaria, the bacillus of consumption and the micro-organisms of other diseases.

Physicians and laymen alike contend for the hygienic and health-preserving properties of the piney woods of our eastern counties and of the piney sections of our Atlantic slope. They ascribe to the presence of our piney forests the proverbial and remarkable exemption of the inhabitants of this vast extent of territory from malarious diseases, from consumption, from puerperal fever, from continued fevers, diphtheria and other diseases originating from the presence of germs. The fact that piney regions of country are healthy is proverbial and traditional, established beyond cavil or dispute.

It is true that good drinking-water is almost always found in piney lands, and this may have some causative action in producing the healthfulness of our piney sections. It is true that the soil of pine forests is generally sandy, and its capacity and powers to absorb, not alone malaria, but bacterial germs, as they float in the air, may have some relation to this healthfulness. But that, above and beyond all this,

there is a *something* in the pine tree that is antidotal to malarial poison, antagonistic and hostile to the causes of other fevers, to puerperal fever, to diphtheria, to septic infection and blood-poisoning, and germ disease generally, is a well-established truth of observation and experience.

Although these sanitary facts as to the pine tree are treated with strange indifference and neglect, both by the medical and non-medical public, the subject is by no means new, illustrating that when we look into the history of almost any subject how little there is new in its facts and its phenomena. What is new consists in our manner of regarding them, our comprehension and application of them.

The pine and its preparations have been long regarded as hygienic and curative, but as especially remedial in the antiseptic treatment of pulmonary diseases. The adoption and success of antiseptic methods of treatment of pulmonary affections have been recorded again and again, and as often have met with opposition, because the treatment has often been held to be empirical. But long experience and faithful investigations have reduced it to a more scientific basis. The antiquity of the fact of the antiseptic treatment of pulmonary disease in the way of tar vapors dates back to the days of Hippocrates and Galen. Galen advised consumptive patients to settle in the vicinity of Vesuvius and Ætna, and to inhale sulphurous and tar vapors and sea air. It is a noticeable fact in the history of pulmonary therapeutics in the last hundred years the frequency with which tar vapor has been advocated as of great value in the treatment of lung disease. Dr. Rush, of Philadelphia, in 1787, Dr. Beddoes, of England, about the same time, and Sir Alexander Chrichton, about the same time, all stated that they had met with great success in treating consumption by the inhalation of the vapor of boiling tar. Since the time of Hippocrates and Galen other illustrious physicians, Skoda and others, have used the inhalations of the vapor of tar and turpentine with much success in phthisis, pulmonary gangrene, and in

bronchial troubles and catarrhal affections of the air-passages. Its application has often failed because of the useless attempt to test any method of treatment in cases of advanced phthisis. No line of treatment will be effective in causing suppurating cavities to close up and heal, or is competent to replace lung tissue that has been destroyed by progressive ulceration and disintegration. Hundreds of cases of consumption are daily coming before us already in this State. That is why so many advanced cases die who go for relief to the piney lands of Florida and other States.

Coming down along the line of inquiry from the days when Rush and Skoda and the earlier physicians used the vapor of tar and turpentine as a remedy, to more recent times, let us see if experience now teaches that pine forests and preparations and extracts from the pine tree have an influence in sterilizing and destroying and neutralizing miasmatic emanations, germs and microbes. Whenever a turpentine still is in active operation, we find an agency at work which is inimical to miasma and to living germs and microbes. Localities and places sickly previous to the erection and operation of one or more turpentine stills have been subjected to such atmospheric changes and sanitary improvement as to become healthy. When the turpentine stills have ceased to be used the former unhealthiness of the localities has generally returned, favoring the belief that the process of distillation of the spirits from the crude turpentine is sanitary. Likewise persons of weak lungs who habitually work around, and in immediate proximity to, turpentine stills while this distillation is going on, generally improve in their pulmonary troubles and in their general health.

We learn by observation of the health-giving properties of the pine tree as it abounds in the sandy regions of the Atlantic slope of North and South Carolina. The inhabitants are taught by experience that if they remain during the warm season upon the sounds, bays, creeks, rivers and

other low places that are liable to malaria and zymotic causes of disease, they are apt to be sickly. As a consequence we find them inclined to remove during the sickly season to the higher regions of the pine, and that in so doing they are generally exempt from malarial and typhoid diseases and affections caused by micro-organisms. Farmers and others who reside near the coast of our own State and that of South Carolina are familiar with these significant facts and profit by them when they are able to do so. The intelligent farmer who clears his swamp land and cultivates his low-land farm knows that he is in danger of sickness if he constructs his dwelling in the same place and inhabits it, and hence he chooses some elevated pine ridge as his residence, with the air and drinking-water purified with the emanations from the surrounding pines. The great work of sanitary progress in the way of better drinking-water, more efficient drainage and purer air that is going on in our State, is steadily *preventing preventable* causes of disease and lessening our bills of mortality.

It deserves to be repeated, with emphasis, that in the piney belts of North and South Carolina diphtheria, typhoid and malarial fevers, puerperal fever, and the whole class of zymotic diseases are extremely rare. I cannot say positively that the peculiar exemption of these extensive piney belts from these diseases, including consumption, is due to the pine tree, but it is a fact beyond dispute that where the turpentine tree is abundant certain classes of diseases, such as consumption, malarial diseases, diphtheria, puerperal fever and other afflictions due to bacterial infection or to the presence of germs and microbes, are of very rare occurrence. Why this is so remains to be discovered by the investigations of some scientific germs. As to the remedial effects of turpentine in diseases of the class mentioned, our experience and that of every observant physician will bear testimony to its admirable action. Its daily increased use by the profession in this class of diseases everywhere, and its traditional use for ages,

both internally and externally, bear strong testimony of its worth. For external use for cuts and wounds I know of no remedy its equal. I have often seen the fresh gum from the turpentine boxes applied to cuts, and always with the happiest results. The application of the strong spirits to the diphtheritic throat destroys the membrane as I have never seen it done by any other application. Whether its beneficial action, administered externally or internally, does not depend upon its adaptation and power to sterilize and destroy bacterial germs and living organisms, as they exist in cuts and wounds, and upon internal surfaces when typhoid fever assails a patient, for example, or when the poison of miasm sets up bilious fever in the system, may well be a matter of enquiry.

Another peculiarity of the piney belts is their exemption from the septic poisoning, gangrene and erysipelas, of wounds and surgical operations. During my professional life I have frequently been called upon to perform important and unimportant surgical operations, as my country practice has extended to piney woods sections. In no operation that I have performed in the piney woods, or amputation or wound that I have treated in a piney belt, have I had to combat pyæmia, septicaemia, erysipelas or gangrene. The purity of the air of the piney belts seems to favor surgical treatment in every respect. If city hospitals, infirmaries, alms-houses and other places for the treatment of medical and surgical cases could be changed from cities and towns and other localities where the air is not good to the antiseptic influences of pure air and piney communities, they could be managed more successfully and with less mortality. My observation and experience as a surgeon during the late war, in charge of a hospital most of the time averaging from three to four hundred sick Confederate soldiers, gave me valuable lessons and impressive memories all along this line.

It may be well just here to remark that outside of our piney sections nearly all of our diseases are more or less malarious the year round, and are disposed to be periodical,

demanding quinine. For several years we have had less of malarial disease and more of typhoid, though the typhoid fever of the east does not seem to prevail so extensively as it does in the west, and is of a milder and less fatal form. It deserves to be remembered that in our eastern counties and towns we sometimes have, in the same case of sickness, two different poisons and causes of disease operating at the same time. In all such cases this coexistence seems to modify the action of each, produces a milder type of fever and a variety of treatment to correspond with the periodicity and other characteristics of each particular case.

And now let us briefly apply the statements, views and reasoning of this paper to the great practical and important question of the health and resources of health of eastern North Carolina.

Looking, in the first place, at the malarious localities of the east, we find that malaria has been steadily but surely giving up its intrenchments and strongholds for a number of years under the influence of drainage and other sanitary measures. With this disappearance of malaria and of the causes of typhoid fever as well, under the operation of preventable and removable means antagonistic and destructive, too, of typhoid poison, there has been gradually going on in the east less and less of malarial and typhoid fever. So that, in relation to these diseases alone, the public health in eastern North Carolina has greatly improved and is steadily improving. With the system of sanitation now at work in all our eastern towns, counties and cities, there is every reason to believe that the whole family of malarious and typhoid fevers will steadily decrease and will be eventually unknown. But be it remembered that a very large portion of the east abounds in pine trees and is covered by the piney belts, that are remarkably exempt from disease. The piney sections embrace a large portion of the east from the coast to near Raleigh and Fayetteville, and higher up, and from Virginia to South Carolina. Within this vast area of piney land it is

likely that there exists *one-half* or *two-thirds* of eastern North Carolina. It is held to be almost wholly exempt from malarial and typhoid causes of disease, from diphtheria and zymotic diseases and other affections arising from germs and microbes, upon the ground that these diseases do not find a congenial home in our pine forests. If the observations and experience of physicians and laymen all along these lines are to be regarded, there is no portion of North Carolina more healthy than the east. Our statistics of health, longevity and bills of mortality will sustain this view. And yet in this important relation great injustice and very great wrong has been done the east, with its fertile lands, magnificent forests, abundance of mineral resources and wealth of climate. It is time that truth should prevail, that erroneous views should be corrected in regard to the great attractions and unrevealed advantages of the east. Laborers and men of skill and capital in other States and across the ocean, seeking new and healthier homes with more inviting fields of enterprise and investment, have long been deceived and blinded by misapprehensions and false statements bearing upon these grave interests. The incontrovertible truth has been suppressed and withheld from other States and other countries that no healthier homes can be found than throughout eastern North Carolina and no portion of earth where the soil is more generous and where Nature has been more bountiful and magnificent in all those gifts which contribute most to the comfort, prosperity and happiness of man.

But certain causes have operated against the development and utilization and appreciation of our health benefits and other great things which kind and generous Nature has done for our eastern people—one is the great objection of capital to invest where the ignorant negro vote is overwhelming and where taxation is at the disposal of ignorant suffrage. And here is an argument for popular education strong, binding, invincible and paramount. Another is the wide-

spread misapprehension which exists in regard to our sanitary condition, our drinking water, our climate and other health benefits. As already said, the observation and experience of physicians who have practiced in our reclaimed and well drained swamp lands and piney belts will bear out the statement that, even admitting the presence of malaria, typhoid fever causes, and zymotic diseases in these localities, they are less severe in form, far more amenable to treatment and less fatal than in the hilly and mountainous regions of our State. That while it is the boast that the higher altitudes of the west produce specimens of more robust physical stamina, medical observation and experience justify the statement that in the matter of health and longevity the east will compare favorably, not alone with the west, but with almost any part of the American continent. It is not unlikely that climatic changes in the east have been going on for a number of years that have combined with other causes in improving its sanitation and in rendering the entire East more salubrious. The existence of a semi-tropical climate along our North Carolina coast, embracing pine forests, at the mouth (extended) of the Cape Fear River, as shown by the thermometer and vegetable growths, recommends this section eminently for health and as suitable for a sanitarium as higher altitudes, especially for pulmonary complaints.

One great obstacle to development and progress in the East is the failure of our own people to appreciate our soil and climate and to place a just estimate upon the precious gifts and manifold blessings which Nature has so richly spread before us, including that of health. Where Nature has done the most for man, there man has done the least for himself. The proverbial ignorance and indolence of our people render them insensible to enterprise, dormant and indifferent to immigration of capital and suitable labor. We lie supinely upon our backs and wait, in contentment, for others from abroad to stimulate us to effort, and to come

and tell us what to do and how to do it. Our hope is in the infusion of new blood and better methods that will reclaim our farms, utilize our forests, erect more manufactures, build up schools, churches, towns and cities, people our railroads.

DISCUSSION.

Dr. Haigh thought it was his duty to bear witness to some of the facts brought out in the paper. We have all along the line of this country been too quiet and entirely too modest in regard to the health-giving properties of our climate. All through this middle country of eastern North Carolina, where in years past malaria existed so extensively, the change has been simply marvelous. He spoke of the severity and fatality of the bilious fevers that were so common at the time he began to practice medicine, about forty years ago, saying they were nearly as malignant in some cases as yellow fever. Now it is a rare thing to have bilious fever. We have the mild forms of intermittent fever and what he calls intestinal fevers, for they rarely reach the type of typhoid. He said our climate is inviting to those seeking health. He was glad the doctor brought forth the virtues of the pine. It is especially useful in irritation of the mucous membrane of the bowels. During the war we had to depend upon it to a very large extent, using it both externally and internally in mucilaginous drinks, and since then some of the worst forms of low fevers have been entirely relieved by the use of oil of turpentine. There is one point on which greater stress should be laid—it is the system of drainage in the eastern part of the State, which has greatly improved. For a long time the people of the hill country have been afraid to come to the low country for fear of having fever, while we think it is sometimes more dangerous to go to the high country. He thinks we have as healthy a country as any part of the State; we are more free from violent disease. We ought not longer to allow the stigma

under which we have rested so long. He was not prepared to indorse what the doctor said in regard to diphtheria. He does not fully understand the nature of the disease nor what causes it. He does know that in certain regions where there was no manner of filth, where everything was as clean as possible, and the water perfectly pure, and the air was filled with the perfume of the pine, he has seen some of the worst cases of diphtheria he ever encountered. He has never been able to satisfy himself that it is a filth disease; as other diseases, it is possibly intensified by the surroundings as found in large cities.

Dr. Potter thought he could give some practical demonstrations of the healthfulness of the pine forest. Anterior to the late war the farmers living near the watercourses were in the habit of moving up into the higher pine regions on the approach of summer, and they rarely suffered from malaria. He cited the case of a man who thought he might do just as well if he remained in his winter home in the lowlands. He tried it for two summers, and during those two years lost three of his family. He thought we seldom have a genuine case of typhoid fever. He has seen diphtheria in the highest pine regions where he could see no cause for it, but where the disease seemed almost to originate *de novo*. He mentioned an epidemic that started in the barracks in a small town where he was in charge as surgeon. On searching for the cause he found under one of the platforms connected with the building a reeking cess-pool. As soon as this was cleaned there were no more cases of the disease. This outbreak seemed to have a cause in this cess-pool.

SOME REMARKS RELATIVE TO THE STATE BOARD OF PUBLIC CHARITIES AND COUNTY CHARITA- BLE AND PENAL INSTITUTIONS.

By WILLIAM H. COBB, JR., M.D., Chairman of Section of State Medicine and Medical Jurisprudence.

(Read before the Medical Society of North Carolina, at Wilmington, May 18, 1892.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

Great and growing have been the demands requiring the permanent establishment and maintenance of a State Board of Public Charities, and its supervision in a general sense over all penal and charitable institutions in the State; and it is indeed gratifying to know that we can now point with pride to such an organization, and feel that through these trusted agents, safeguards of mercy and justice, our poor and afflicted will be kindly dealt with and shielded from all harm, and our criminals will not be abused, but shall be protected and humane consideration vouchsafed unto them.

Irregularities, mismanagement and abuses will creep into public institutions of every country. North Carolina is no exception to this statement; nor are we as a people more prone to these ill uses than our neighboring States; but human nature is very much the same the world over, and the "flesh is weak" when subjected to temptations.

North Carolina, ever foremost in good works and noble deeds, and early recognizing the necessity for State supervision in the control and management of all charitable and penal institutions within her borders, was not slow to make provisions whereby this object might be attained, and in Article II, Section 7 of our State Constitution we have the

authority for the establishment of a Board of Charities, "to whom shall be entrusted the supervision of all charitable and penal institutions, and who shall annually report to the Governor upon their condition, with suggestions for their improvements." It was not, however, until 1869 that the General Assembly "proceeded by concurrent vote to select five electors, who shall be styled the Board of Public Charities of the State of North Carolina"; and at one time so much authority was vested in this organization that no change could be made in the management of State institutions without the advice or consent of this Board; but this act has been repealed, and wisely so, I think, as its enforcement could not but engender dissatisfaction, but would necessarily produce a division of authority.

The history of the existence of this Board of Charities, in its labors of love and efforts for the amelioration of suffering humanity, from its first organization until now, would be but the portrayal of a struggle for life under great disadvantages and almost insurmountable difficulties, with but little manifestation of appreciation by our lawmakers, and with very little assistance and co-operation from the people at large. It would be but the repetition of known facts and a trespass on your valuable time were I to attempt to recount the many trials encountered and the signal failures made in trying to accomplish the purposes for which they were created, all because they had not the funds necessary to meet absolute expenses in carrying on their work. These facts and others pertaining to this subject were most graphically set forth in an able paper by Dr. K. P. Battle, Jr., read before the Society at its annual meeting at Elizabeth City, in 1889.

Suffice it to say that, though having to labor under adverse circumstances, it still exists, and is to-day an honor to our State, and has accomplished more this year than ever before in the history of its existence.

Heretofore the Board was empowered to meet four times annually, viz: in January, April, July and October, and if

it was deemed proper and necessary, more frequently, and yet provision was made for payment of expenses of only one annual meeting; but the last General Assembly, evidently appreciating more fully the responsibility of their labors, repealed these restrictions, and members are allowed their actual expenses for each and every meeting, and as a great deal of work falls upon the shoulders of the Secretary, he is allowed compensation for the time actually engaged in attending to the duties of his office and the cost of all stationery used.

While probably it was contemplated that they would meet quarterly, it is now quite likely that only semi-annual meetings will be necessary, unless the development of unexpected causes should require more frequent sessions, which of course will be regulated by members of the Board.

The Board of Charities, in obtaining the desired information, have adopted an admirable method whereby they can learn directly of the condition and management of institutions under their surveillance, and that is by sending out the following notice to different gentlemen in the various counties who are known to be men of good standing and excellent character, asking their co-operation and assistance in acquiring the needed information:

“DEAR SIR:—In pursuance of authority vested in the State Board of Public Charities to inspect the several penal and charitable institutions throughout the State, by the members of said Board, or ‘otherwise,’ it has been determined by the Board that the most effective method of proceeding would be the organization of visiting committees of three citizens in each of the counties of North Carolina. To this end the Board asks the co-operation of humane and patriotic citizens to assist in the effort to ascertain the condition and management of all jails, poor-houses, work-houses, etc., in each county. No compensation is proposed for this service. It will not be requested of any but citizens of high character

and public spirit, who will be willing at certain periods to visit the institutions named, and exercise a moral supervision over their conduct and operations. Will you kindly accept this charge for your county? It is proposed to forward to you blanks with suitable inquiries, to be answered by the officials in charge, and returned to this office. These will be of great value in ascertaining the true condition of the institutions named within the State.

"It is not believed that the moral effect of personal visits from influential citizens in each county can be surpassed by any other form of inspection or superintendence.

"The Commissioners of Public Charities receive no compensation for their own services, and therefore consistently ask the aid of their fellow-citizens in a duty imperatively needed in our midst. It will be perceived, on reflection, that no board of a limited number could adequately perform it in person; nor could the work of paid officials (even if there were funds appropriated for said purpose, which is not the case) be comparable with the labors of public spirited citizens inspired by pity for the unfortunate and patriotic devotion to the best interests of the people.

"If you will accept the charge in behalf of your county, please sign and forward the enclosed postal card. If your engagements do not permit you to accept this position, will you kindly forward to the Board the name of some citizen whom you will suggest, and who could probably serve?"

[Signed by the Secretary of Board of Public Charities.]

Having secured the services of the desired number of citizens, blanks containing the following questions relative to the "homes for aged and infirm" (formerly "poor-houses") and work-houses and jails are forwarded them to be properly filled out and returned to the Secretary of the Board, as indicated in the notice of instructions they receive:

1. Please state the situation of the "Home for the Aged and Infirm," and how far from the county-seat.

2. Give the number of buildings, size of each, and state of what material built.

3. How many rooms in each building?

4. How are the buildings ventilated?

5. What are the means of protection?

6. How is the supply of water furnished for drinking, cooking and bathing purposes?

7. How are the buildings heated in winter?

8. How many inmates can be comfortably accommodated with the present arrangements?

9. How many are now in the care of the institution?

10. How many of these are able to work?

11. How many are helpless or bed-ridden?

12. How many are in voluntary confinement?

[*Note.*—If any work-house is attached to the Home, please give all particulars that would correspond with these questions under "Remarks," or on a separate sheet.]

13. Please give the names of such persons belonging to the Home as are under involuntary confinement, stating if insane, imbecile, or idiotic, here or on list attached to this report.

14. What is the amount and kind of food allowed daily to each inmate?

15. What is the average weekly cost of maintenance of each inmate?

[*Note.*—If this question cannot be answered, for any reason, please give the aggregate cost annually to the county for three years past, with the average number accommodated, if practicable.]

16. State if any veteran soldier is an inmate of the County Home, and if so, please give name, regiment and company, and whether in receipt of pension or not.

[*Note.*—This is not for publicity, but the information is requested for the benefit of the veterans.]

17. What is the name and postoffice address of the keeper or overseer of the Home?

18. What pay does he receive, and is his compensation in money altogether, or are there any perquisites ?
19. Is he industrious, sober and discreet ?
20. What is the name and address of the physician who attends the inmates ?
21. What does he receive for his services ?
22. How many inmates were in the Home on December 1, 1891 ?
23. How many admitted since that time up to March 1, 1892 ?
24. How many deaths during that period, and from what diseases ?
25. How many discharges from other causes ?
26. How many inmates assist in any part of the farm or garden work ?
27. How many could be employed in any light work for their comfort or pleasurable occupation and the benefit of the Home ?
28. If any could do some light work, such as the making of small articles, what do you recommend, and what amount of means, if any, would be required to start and maintain the same ?
29. Give a general description of the premises. Are they well arranged, neat and in good condition, or dilapidated and out of repair ?
30. How many acres of land belong to the Home (formerly known as the " Poor-House Tract "), and what is the quality of the land ?
31. How much is in cultivation, and what stock is kept ?
32. What crops are raised on the land, and how are the products used ?
33. What vegetables are raised for summer and winter use ?
34. Are houses and yards protected by shade-trees ?
35. Are the ashes and manures saved and used in improv-

ing the land, or any green crop of peas or clover turned under for that purpose?

36. Is any provision made for religious services on Sunday, or any other day? If so, to what extent, and by whom?

37. Are there any children in the Home? If so, why? If any of these are capable of taking care of themselves now, or soon, have any steps been taken to assist them, or to place them in orphan asylums, or private homes?

38. Has any punishment been inflicted upon any inmate since admission? If so, upon whom? By whom? What punishment, and for what offence?

39. Is there any system of out-door relief to the poor for support in your county?

40. If so, how many persons are thus supported, and at what average rate?

Remarks.

[Left blank for any additional information.]

QUESTIONS CONCERNING PRISONERS AND PRISONS.

1. Of what material is your county prison built?

2. Is it fire-proof?

3. What means are there for extinguishing fire?

4. What is the size of the building?

5. How many stories high, and how many rooms or cells for prisoners?

6. State the size of the rooms or cells and number placed in each.

7. Are the windows closed or in any way obstructed? If so, how and why?

8. Are there any means of ventilation except by the windows?

9. What are the means of heating the building in winter?

10. Are the prisoners subject to much suffering in cold weather?

11. What amount of bedding and covering is allowed, and is furnished to each prisoner?

12. What part of the prison is occupied by the male, and what part by the female, prisoners?

13. How often is cool drinking-water furnished during the day?

14. What is the daily allowance of food to each prisoner?

15. What means are used to preserve the cleanness of the jail?

16. What disposition is made of the excrement?

17. Is the prison free of vermin? If not, what steps have been taken to secure that result?

18. Has punishment been inflicted on any prisoner since confinement? If so, upon whom? By whom and by what authority? What punishment and for what offence?

19. Are the prisoners allowed to have intoxicating liquors?

20. Do the prisoners receive any ministerial services on Sunday, or at any other time?

21. Please give the number, color and sex of prisoners now in confinement; also offence, and date of confinement, and term if sentenced.

22. Please give the number, color and sex and offence of all prisoners under confinement from December 1, 1891, to March 1, 1892.

23. How many deaths during the period above named, and from what cause?

Remarks.

[Left blank for any additional information.]

Unfortunately for the ultimate purposes desired, I am informed that there is a feeling of indifference, if not antagonism, manifested by some of the County Commissioners and Superintendents of Health, upon the grounds that these "vigilant committees" of citizens, if I may be pardoned for terming them such, are in a measure usurping their work and transcending their authority. Now, never was there a graver mistake made, for the sole purpose and object of these

citizens is to ascertain all the facts relative to the care and management of the charitable and penal institutions, and act in conjunction with the regular authorities in bringing about a better condition of affairs generally, and abolishing any and all irregularities that may be found to exist. It is always known by the superintendents of these institutions when they may expect a visit from a committee of the Grand Jury or the County Commissioners, and any abuses or irregularities, if such did really exist, could be easily suppressed or hidden from view during these short, superficial and oftentimes imperfect examinations; whereas this tendency is in a great measure overcome by the unexpected and assiduous visits from one or more of these officially appointed citizens.

In many of our county institutions a comparatively good system of management prevails, the patients are supplied with proper diet and suitable clothing, but there are many, and I fear they are in the ascendancy, where nothing but the poorest and coarsest food is provided, and almost no attention paid to its preparation and variation, and the inmates clothed with the scantiest of garments consistent with decency and civilization.

In this connection it seems to me greater good could be accomplished and better results obtained, if more care was paid to these vital necessities. Another matter deserving of great attention is the personal and general hygiene of these unfortunate beings, for if "cleanliness be next to Godliness," then there are many of them, I fear, who, if they ever possessed any of the divine in their nature, cannot now lay claim to that attribute.

In visiting a County Home on one occasion, I was very forcibly struck with one of the inmates, whose appearance was repelling from the large amount of "real estate" he carried on his person, and propounding a question as to the frequency of his bathing, he informed me that "he washed about once a year." And this, too, not far from many of

our homes, and in this century of enlightenment and civilization. Gentlemen, is there not great need for improvement and a systematic supervision in some of our institutions? In a Home of one of our western counties there is confined a lunatic, "harmless and incurable," who, under the influence of her delusions, is guilty of incoherent actions and language, and to correct this woman she is whipped or thrashed by the authorities of the place as though responsible for her actions caused by a diseased mind. This case, I am gratified to say, was brought to the knowledge of the Board of Public Charities through a member of the "Citizen Committee," and steps were immediately taken to prevent the further perpetration of this outrage upon an unfortunate woman devoid of reason; and yet, I dare say, 'twas done through ignorance and not with the intention of maltreatment or cruelty. Other incidents might be cited showing the necessity for better and more intelligent management of these institutions, but it is not necessary.

Before concluding this subject there is a suggestion which I wish to make relative to the county criminals and their employment on the farms in connection with the County Homes.

All of us recognize the necessity for the establishment of work-houses in every county within our State, and my suggestion would be this, viz.: Have each work-house established in close proximity to the "Home for the Aged and Infirm," both under the management and supervision of one superintendent, and let all criminals sentenced to terms of imprisonment for ten years and under be sent to these county work-houses, and under the security of guards made to labor on these farms, and thus be a source of revenue to the county, in that their labors support the county poor, and in a great measure make the work-house and Home self-sustaining.

Several counties within the State have established work-houses and derive a great deal of service from the labors of

their inmates, many of the convicts being used in improving public roads, but it seems to me preferable that they should be made to work on the farms, and thus be self-sustaining and support the poor and afflicted inmates of the Homes, a great majority, if not all of them, being unable to do manual labor, save of the easiest kind.

In conclusion, I shall indeed feel gratified if these incidental observations shall bring more forcibly to your minds as physicians the necessity for improvement in the management of these institutions, and elicit your hearty co-operation and influence in behalf of any agency which has for its ultimate purpose the accomplishment of this object.

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